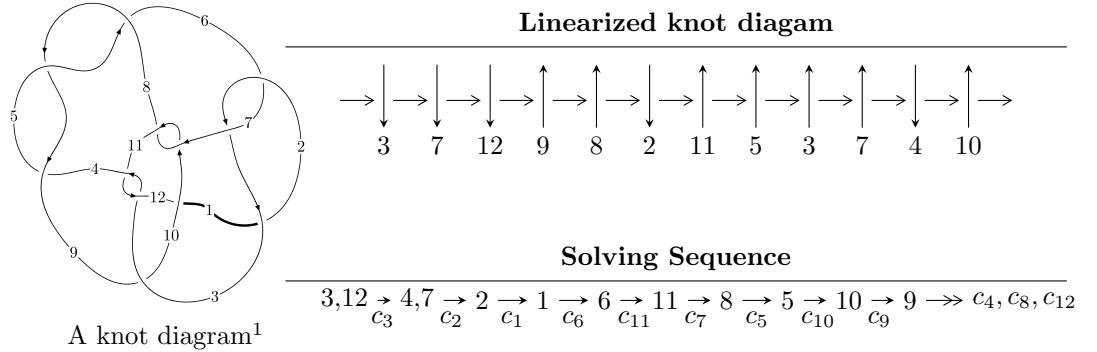


$12n_{0608}$ ($K12n_{0608}$)



Ideals for irreducible components² of X_{par}

$$\begin{aligned}
 I_1^u = & \langle -4.28549 \times 10^{26} u^{34} + 1.62732 \times 10^{27} u^{33} + \dots + 1.15843 \times 10^{27} b + 8.44652 \times 10^{25}, \\
 & -6.12275 \times 10^{26} u^{34} + 2.45059 \times 10^{27} u^{33} + \dots + 1.15843 \times 10^{27} a - 1.01126 \times 10^{28}, \\
 & u^{35} - 4u^{34} + \dots + 13u - 1 \rangle \\
 I_2^u = & \langle -u^8 - 2u^7 - 6u^6 - 8u^5 - 11u^4 - 10u^3 - 8u^2 + b - 5u - 2, -5u^{14} - 15u^{13} + \dots + 3a - 17, \\
 & u^{15} + 3u^{14} + \dots + 13u + 3 \rangle
 \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 50 representations.

¹The image of knot diagram is generated by the software “**Draw programme**” developed by Andrew Bartholomew(<http://www.layer8.co.uk/math/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.

$$\text{I. } I_1^u = \langle -4.29 \times 10^{26}u^{34} + 1.63 \times 10^{27}u^{33} + \dots + 1.16 \times 10^{27}b + 8.45 \times 10^{25}, -6.12 \times 10^{26}u^{34} + 2.45 \times 10^{27}u^{33} + \dots + 1.16 \times 10^{27}a - 1.01 \times 10^{28}, u^{35} - 4u^{34} + \dots + 13u - 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_7 &= \begin{pmatrix} 0.528536u^{34} - 2.11543u^{33} + \dots - 7.88425u + 8.72955 \\ 0.369938u^{34} - 1.40475u^{33} + \dots - 4.29951u - 0.0729132 \end{pmatrix} \\ a_2 &= \begin{pmatrix} -0.359797u^{34} + 1.78137u^{33} + \dots + 13.8898u + 2.59083 \\ 0.722732u^{34} - 2.92785u^{33} + \dots - 9.15685u + 0.471493 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 0.362935u^{34} - 1.14648u^{33} + \dots + 4.73298u + 3.06233 \\ 0.722732u^{34} - 2.92785u^{33} + \dots - 9.15685u + 0.471493 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 1.27580u^{34} - 5.37707u^{33} + \dots - 35.0016u + 9.63485 \\ -0.579896u^{34} + 2.31293u^{33} + \dots + 5.25837u - 0.573290 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_8 &= \begin{pmatrix} 0.304499u^{34} - 1.56526u^{33} + \dots - 9.41309u + 8.84688 \\ -0.0982936u^{34} + 0.185494u^{33} + \dots - 1.55461u - 0.301571 \end{pmatrix} \\ a_5 &= \begin{pmatrix} 0.406624u^{34} - 2.10480u^{33} + \dots - 26.6053u + 5.81865 \\ -0.535938u^{34} + 2.38382u^{33} + \dots + 13.8187u - 1.15100 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -1.18951u^{34} + 4.30246u^{33} + \dots + 18.7895u - 7.62806 \\ 0.436510u^{34} - 1.15451u^{33} + \dots + 10.2359u - 0.598029 \end{pmatrix} \\ a_9 &= \begin{pmatrix} -1.62602u^{34} + 5.45697u^{33} + \dots + 8.55359u - 7.03003 \\ 0.436510u^{34} - 1.15451u^{33} + \dots + 10.2359u - 0.598029 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = \frac{3236202714557221663667427502}{1158434840850118878760670711}u^{34} - \frac{11521304278120420457094400882}{1158434840850118878760670711}u^{33} + \dots - \frac{19429751991808479469174855571}{1158434840850118878760670711}u + \frac{14832261325134485821068505741}{1158434840850118878760670711}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{35} + 52u^{34} + \cdots + 1078089u + 58081$
c_2, c_6	$u^{35} - 2u^{34} + \cdots + 133u - 241$
c_3, c_{11}	$u^{35} - 4u^{34} + \cdots + 13u - 1$
c_4, c_5, c_8	$u^{35} + 3u^{34} + \cdots - 51u - 29$
c_7, c_{10}	$u^{35} - 4u^{34} + \cdots - 1779u - 1003$
c_9	$u^{35} - u^{34} + \cdots + 78u - 85$
c_{12}	$u^{35} + 3u^{34} + \cdots - 98428u - 11887$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} - 136y^{34} + \cdots + 281818346229y - 3373402561$
c_2, c_6	$y^{35} - 52y^{34} + \cdots + 1078089y - 58081$
c_3, c_{11}	$y^{35} + 24y^{34} + \cdots + 117y - 1$
c_4, c_5, c_8	$y^{35} + 39y^{34} + \cdots - 11087y - 841$
c_7, c_{10}	$y^{35} + 12y^{34} + \cdots - 6831057y - 1006009$
c_9	$y^{35} + 55y^{34} + \cdots - 71946y - 7225$
c_{12}	$y^{35} + 65y^{34} + \cdots + 5833354824y - 141300769$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.438726 + 0.895588I$		
$a = 1.016980 - 0.315210I$	$-2.74914 - 4.81054I$	$0.81451 + 1.64077I$
$b = 0.365333 - 0.481328I$		
$u = 0.438726 - 0.895588I$		
$a = 1.016980 + 0.315210I$	$-2.74914 + 4.81054I$	$0.81451 - 1.64077I$
$b = 0.365333 + 0.481328I$		
$u = -0.333888 + 1.017460I$		
$a = 0.443838 - 0.170121I$	$0.88382 + 2.43047I$	$-0.03299 - 5.13239I$
$b = -0.562059 + 0.013682I$		
$u = -0.333888 - 1.017460I$		
$a = 0.443838 + 0.170121I$	$0.88382 - 2.43047I$	$-0.03299 + 5.13239I$
$b = -0.562059 - 0.013682I$		
$u = 0.447884 + 0.792535I$		
$a = -0.854818 + 0.719224I$	$-3.06128 + 1.10681I$	$2.91387 - 1.64168I$
$b = 0.214078 - 0.577363I$		
$u = 0.447884 - 0.792535I$		
$a = -0.854818 - 0.719224I$	$-3.06128 - 1.10681I$	$2.91387 + 1.64168I$
$b = 0.214078 + 0.577363I$		
$u = -0.875729 + 0.155508I$		
$a = -0.842983 + 0.299610I$	$-8.00593 + 0.44170I$	$-3.85524 - 0.48096I$
$b = -1.23212 - 0.73772I$		
$u = -0.875729 - 0.155508I$		
$a = -0.842983 - 0.299610I$	$-8.00593 - 0.44170I$	$-3.85524 + 0.48096I$
$b = -1.23212 + 0.73772I$		
$u = -0.103177 + 0.789327I$		
$a = -2.66688 - 0.67293I$	$2.14762 + 0.15223I$	$2.99660 + 0.57013I$
$b = -0.453226 + 0.879943I$		
$u = -0.103177 - 0.789327I$		
$a = -2.66688 + 0.67293I$	$2.14762 - 0.15223I$	$2.99660 - 0.57013I$
$b = -0.453226 - 0.879943I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.427929 + 1.125370I$	$-6.38645 - 1.24603I$	$1.102278 + 0.713977I$
$a = -0.033088 - 0.623920I$		
$b = 1.61731 - 0.12251I$		
$u = 0.427929 - 1.125370I$	$-6.38645 + 1.24603I$	$1.102278 - 0.713977I$
$a = -0.033088 + 0.623920I$		
$b = 1.61731 + 0.12251I$		
$u = 0.567236 + 1.078050I$	$-7.67580 - 6.23301I$	$0. + 5.36362I$
$a = 1.20953 - 2.15171I$		
$b = 2.05290 + 0.23565I$		
$u = 0.567236 - 1.078050I$	$-7.67580 + 6.23301I$	$0. - 5.36362I$
$a = 1.20953 + 2.15171I$		
$b = 2.05290 - 0.23565I$		
$u = 0.587809 + 0.459354I$	$-9.52479 + 1.55754I$	$-3.44973 - 0.83786I$
$a = -2.88667 + 0.34889I$		
$b = -1.94228 - 0.11994I$		
$u = 0.587809 - 0.459354I$	$-9.52479 - 1.55754I$	$-3.44973 + 0.83786I$
$a = -2.88667 - 0.34889I$		
$b = -1.94228 + 0.11994I$		
$u = 1.268320 + 0.094937I$	$-18.8876 + 5.6310I$	$-3.08853 - 2.13848I$
$a = 1.275000 + 0.163208I$		
$b = 2.01220 - 0.37789I$		
$u = 1.268320 - 0.094937I$	$-18.8876 - 5.6310I$	$-3.08853 + 2.13848I$
$a = 1.275000 - 0.163208I$		
$b = 2.01220 + 0.37789I$		
$u = -0.186440 + 1.337960I$	$4.65613 + 0.77461I$	$3.46373 + 0.I$
$a = -0.04404 + 1.57716I$		
$b = 0.940593 - 0.080776I$		
$u = -0.186440 - 1.337960I$	$4.65613 - 0.77461I$	$3.46373 + 0.I$
$a = -0.04404 - 1.57716I$		
$b = 0.940593 + 0.080776I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.503936 + 1.253380I$		
$a = -0.455770 - 0.129160I$	$-4.00184 + 5.15630I$	$0. - 3.08603I$
$b = 0.822421 + 0.351035I$		
$u = -0.503936 - 1.253380I$		
$a = -0.455770 + 0.129160I$	$-4.00184 - 5.15630I$	$0. + 3.08603I$
$b = 0.822421 - 0.351035I$		
$u = -0.625747 + 1.228040I$		
$a = 0.94055 + 1.37055I$	$-4.92418 + 5.07528I$	$0. - 3.21102I$
$b = 1.06385 - 1.20619I$		
$u = -0.625747 - 1.228040I$		
$a = 0.94055 - 1.37055I$	$-4.92418 - 5.07528I$	$0. + 3.21102I$
$b = 1.06385 + 1.20619I$		
$u = -0.522315 + 0.321404I$		
$a = 0.487435 + 0.511559I$	$-1.059490 + 0.906630I$	$-3.98870 - 3.93714I$
$b = 0.583370 - 0.383300I$		
$u = -0.522315 - 0.321404I$		
$a = 0.487435 - 0.511559I$	$-1.059490 - 0.906630I$	$-3.98870 + 3.93714I$
$b = 0.583370 + 0.383300I$		
$u = 0.197339 + 0.561727I$		
$a = 0.42659 + 1.47371I$	$-8.60322 - 1.90217I$	$-4.38764 + 3.16662I$
$b = -1.52907 + 0.02813I$		
$u = 0.197339 - 0.561727I$		
$a = 0.42659 - 1.47371I$	$-8.60322 + 1.90217I$	$-4.38764 - 3.16662I$
$b = -1.52907 - 0.02813I$		
$u = -0.11107 + 1.48262I$		
$a = 0.238087 - 1.373730I$	$4.86915 + 2.91939I$	0
$b = -0.853511 + 0.787626I$		
$u = -0.11107 - 1.48262I$		
$a = 0.238087 + 1.373730I$	$4.86915 - 2.91939I$	0
$b = -0.853511 - 0.787626I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.67415 + 1.39583I$	$-14.8714 - 12.4304I$	0
$a = -0.48671 + 1.48073I$		
$b = -1.98416 - 0.43518I$		
$u = 0.67415 - 1.39583I$	$-14.8714 + 12.4304I$	0
$a = -0.48671 - 1.48073I$		
$b = -1.98416 + 0.43518I$		
$u = 0.60867 + 1.54226I$	$-13.79050 - 1.10397I$	0
$a = 0.026702 + 0.386347I$		
$b = -1.94794 + 0.32252I$		
$u = 0.60867 - 1.54226I$	$-13.79050 + 1.10397I$	0
$a = 0.026702 - 0.386347I$		
$b = -1.94794 - 0.32252I$		
$u = 0.0885005$		
$a = 8.41251$	1.02693	12.3950
$b = -0.335347$		

$$\text{II. } I_2^u = \langle -u^8 - 2u^7 + \dots + b - 2, -5u^{14} - 15u^{13} + \dots + 3a - 17, u^{15} + 3u^{14} + \dots + 13u + 3 \rangle$$

(i) **Arc colorings**

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} \frac{5}{3}u^{14} + 5u^{13} + \dots + \frac{62}{3}u + \frac{17}{3} \\ u^8 + 2u^7 + 6u^6 + 8u^5 + 11u^4 + 10u^3 + 8u^2 + 5u + 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{4}{3}u^{14} - 3u^{13} + \dots - \frac{13}{3}u - \frac{1}{3} \\ -u^{14} - 3u^{13} + \dots - 4u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{7}{3}u^{14} - 6u^{13} + \dots - \frac{25}{3}u - \frac{4}{3} \\ -u^{14} - 3u^{13} + \dots - 4u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2u^{14} + 6u^{13} + \dots + 27u + 7 \\ u^{13} + 3u^{12} + \dots + 11u + 3 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} \frac{5}{3}u^{14} + 5u^{13} + \dots + \frac{68}{3}u + \frac{17}{3} \\ u^{13} + 2u^{12} + \dots + 7u + 2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{2}{3}u^{14} + 2u^{13} + \dots + \frac{35}{3}u + \frac{11}{3} \\ u^{13} + 3u^{12} + \dots + 8u + 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{4}{3}u^{14} + 4u^{13} + \dots + \frac{43}{3}u + \frac{13}{3} \\ u^3 + u^2 + 2u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{4}{3}u^{14} + 4u^{13} + \dots + \frac{37}{3}u + \frac{10}{3} \\ u^3 + u^2 + 2u + 1 \end{pmatrix}$$

(ii) **Obstruction class = 1**

$$(iii) \text{ Cusp Shapes} = -u^{14} - 5u^{13} - 18u^{12} - 46u^{11} - 94u^{10} - 159u^9 - 225u^8 - 278u^7 - 294u^6 - 274u^5 - 220u^4 - 148u^3 - 86u^2 - 39u - 12$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 13u^{14} + \cdots + 7u - 1$
c_2	$u^{15} - u^{14} + \cdots + u - 1$
c_3	$u^{15} + 3u^{14} + \cdots + 13u + 3$
c_4, c_5	$u^{15} + 2u^{14} + \cdots + 7u + 1$
c_6	$u^{15} + u^{14} + \cdots + u + 1$
c_7	$u^{15} - 3u^{14} + \cdots + u + 1$
c_8	$u^{15} - 2u^{14} + \cdots + 7u - 1$
c_9	$u^{15} + 9u^{13} + \cdots + 6u + 1$
c_{10}	$u^{15} + 3u^{14} + \cdots + u - 1$
c_{11}	$u^{15} - 3u^{14} + \cdots + 13u - 3$
c_{12}	$u^{15} - 2u^{14} + \cdots + 3u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} - 21y^{14} + \cdots + 7y - 1$
c_2, c_6	$y^{15} - 13y^{14} + \cdots + 7y - 1$
c_3, c_{11}	$y^{15} + 15y^{14} + \cdots - 17y - 9$
c_4, c_5, c_8	$y^{15} + 14y^{14} + \cdots + 15y - 1$
c_7, c_{10}	$y^{15} - 9y^{14} + \cdots + 9y - 1$
c_9	$y^{15} + 18y^{14} + \cdots + 36y - 1$
c_{12}	$y^{15} + 8y^{14} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.294054 + 0.902067I$		
$a = -1.74741 + 1.25285I$	$2.05778 + 1.28386I$	$1.55430 - 4.57112I$
$b = 0.163721 + 0.772718I$		
$u = -0.294054 - 0.902067I$		
$a = -1.74741 - 1.25285I$	$2.05778 - 1.28386I$	$1.55430 + 4.57112I$
$b = 0.163721 - 0.772718I$		
$u = 0.335661 + 0.850330I$		
$a = -0.644931 + 0.229416I$	$-7.89532 + 0.50711I$	$-0.469805 + 0.654815I$
$b = -1.51635 - 0.09643I$		
$u = 0.335661 - 0.850330I$		
$a = -0.644931 - 0.229416I$	$-7.89532 - 0.50711I$	$-0.469805 - 0.654815I$
$b = -1.51635 + 0.09643I$		
$u = -0.765432 + 0.446059I$		
$a = -0.993036 - 0.607246I$	$-4.48804 - 1.42220I$	$-2.69080 + 1.40736I$
$b = -0.655190 - 0.030645I$		
$u = -0.765432 - 0.446059I$		
$a = -0.993036 + 0.607246I$	$-4.48804 + 1.42220I$	$-2.69080 - 1.40736I$
$b = -0.655190 + 0.030645I$		
$u = 0.300700 + 1.077460I$		
$a = -0.789534 - 0.997684I$	$-7.07233 - 2.98109I$	$-0.87550 + 3.88201I$
$b = 1.62235 - 0.19645I$		
$u = 0.300700 - 1.077460I$		
$a = -0.789534 + 0.997684I$	$-7.07233 + 2.98109I$	$-0.87550 - 3.88201I$
$b = 1.62235 + 0.19645I$		
$u = -0.517610 + 1.132790I$		
$a = 0.882248 + 0.640892I$	$-2.37196 + 6.17336I$	$2.93895 - 6.71675I$
$b = 0.497798 - 0.455917I$		
$u = -0.517610 - 1.132790I$		
$a = 0.882248 - 0.640892I$	$-2.37196 - 6.17336I$	$2.93895 + 6.71675I$
$b = 0.497798 + 0.455917I$		

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.15119 + 1.44529I$		
$a = 0.12383 - 1.45888I$	$5.34612 + 2.25981I$	$6.22461 - 0.26095I$
$b = -1.004350 + 0.602621I$		
$u = -0.15119 - 1.44529I$		
$a = 0.12383 + 1.45888I$	$5.34612 - 2.25981I$	$6.22461 + 0.26095I$
$b = -1.004350 - 0.602621I$		
$u = -0.482410$		
$a = 2.25011$	0.445914	-3.84240
$b = 0.780168$		
$u = -0.16687 + 1.59426I$		
$a = -0.122895 + 1.082350I$	$2.68625 + 1.86325I$	$-0.76058 - 1.55872I$
$b = 1.001930 - 0.484978I$		
$u = -0.16687 - 1.59426I$		
$a = -0.122895 - 1.082350I$	$2.68625 - 1.86325I$	$-0.76058 + 1.55872I$
$b = 1.001930 + 0.484978I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{15} - 13u^{14} + \dots + 7u - 1)(u^{35} + 52u^{34} + \dots + 1078089u + 58081)$
c_2	$(u^{15} - u^{14} + \dots + u - 1)(u^{35} - 2u^{34} + \dots + 133u - 241)$
c_3	$(u^{15} + 3u^{14} + \dots + 13u + 3)(u^{35} - 4u^{34} + \dots + 13u - 1)$
c_4, c_5	$(u^{15} + 2u^{14} + \dots + 7u + 1)(u^{35} + 3u^{34} + \dots - 51u - 29)$
c_6	$(u^{15} + u^{14} + \dots + u + 1)(u^{35} - 2u^{34} + \dots + 133u - 241)$
c_7	$(u^{15} - 3u^{14} + \dots + u + 1)(u^{35} - 4u^{34} + \dots - 1779u - 1003)$
c_8	$(u^{15} - 2u^{14} + \dots + 7u - 1)(u^{35} + 3u^{34} + \dots - 51u - 29)$
c_9	$(u^{15} + 9u^{13} + \dots + 6u + 1)(u^{35} - u^{34} + \dots + 78u - 85)$
c_{10}	$(u^{15} + 3u^{14} + \dots + u - 1)(u^{35} - 4u^{34} + \dots - 1779u - 1003)$
c_{11}	$(u^{15} - 3u^{14} + \dots + 13u - 3)(u^{35} - 4u^{34} + \dots + 13u - 1)$
c_{12}	$(u^{15} - 2u^{14} + \dots + 3u^2 - 1)(u^{35} + 3u^{34} + \dots - 98428u - 11887)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{15} - 21y^{14} + \dots + 7y - 1)$ $\cdot (y^{35} - 136y^{34} + \dots + 281818346229y - 3373402561)$
c_2, c_6	$(y^{15} - 13y^{14} + \dots + 7y - 1)(y^{35} - 52y^{34} + \dots + 1078089y - 58081)$
c_3, c_{11}	$(y^{15} + 15y^{14} + \dots - 17y - 9)(y^{35} + 24y^{34} + \dots + 117y - 1)$
c_4, c_5, c_8	$(y^{15} + 14y^{14} + \dots + 15y - 1)(y^{35} + 39y^{34} + \dots - 11087y - 841)$
c_7, c_{10}	$(y^{15} - 9y^{14} + \dots + 9y - 1)(y^{35} + 12y^{34} + \dots - 6831057y - 1006009)$
c_9	$(y^{15} + 18y^{14} + \dots + 36y - 1)(y^{35} + 55y^{34} + \dots - 71946y - 7225)$
c_{12}	$(y^{15} + 8y^{14} + \dots + 6y - 1)$ $\cdot (y^{35} + 65y^{34} + \dots + 5833354824y - 141300769)$