



HAL
open science

N order solutions with multi-parameters to the Boussinesq and KP equations and the degenerate rational case

Pierre Gaillard

► **To cite this version:**

Pierre Gaillard. N order solutions with multi-parameters to the Boussinesq and KP equations and the degenerate rational case. 2021. hal-03142778

HAL Id: hal-03142778

<https://hal.science/hal-03142778>

Preprint submitted on 16 Feb 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

N order solutions with multi-parameters to the Boussinesq and KP equations and the degenerate rational case

Pierre Gaillard,
Université de Bourgogne,
Institut de mathématiques de Bourgogne,
9 avenue Alain Savary BP 47870
21078 Dijon Cedex, France :
E-mail : Pierre.Gaillard@u-bourgogne.fr

Abstract

From elementary exponential functions which depend on several parameters, we construct multi-parametric solutions to the Boussinesq equation. When we perform a passage to the limit when one of these parameters goes to 0, we get rational solutions as a quotient of a polynomial of degree $N(N+1) - 2$ in x and t , by a polynomial of degree $N(N+1)$ in x and t for each positive integer N depending on $3N$ parameters. We restrict ourself to give the explicit expressions of these rational solutions for $N = 1$ until $N = 3$ to shortened the paper.

We easily deduce the corresponding explicit rational solutions to the Kadomtsev Petviashvili equation for the same orders from 1 to 3.

Key Words : Boussinesq equation, Kadomtsev Petviashvili equation, rational solutions.

PACS numbers :

33Q55, 37K10, 47.10A-, 47.35.Fg, 47.54.Bd

1 Introduction

The Boussinesq equation in the following normalization is considered

$$u_{tt} - u_{xx} + (u^2)_{xx} + \frac{1}{3}u_{xxxx} = 0. \quad (1)$$

The subscripts x and t denote partial derivatives.

This equation (1) is an equation solvable [3, 4] by inverse scattering. It was

introduced for the first time by Boussinesq [1, 2] in 1871. This equation appears in wide range of physical problems dealing with propagation of nonlinear waves; for example, in one-dimensional nonlinear lattice-waves [5], vibrations in a nonlinear string [6], ion sound waves in a plasma [7],...

The first solutions were constructed by Hirota [8] in 1977 with Bäcklund transformations. Non singular rational solutions were constructed by Ablowitz and Satsuma by using the Hirota bilinear method [9] in 1978. Freemann and Nimmo [10] gave in 1983 wronskians representations of the solutions. Other approaches were used; in particular, an algebro-geometrical method was given by Matveev et al. [11] in 1987; Darboux transformations [12] was used by Matveev; the $\bar{\partial}$ dressing method [13] was considered by Bogdanov.

Clarkson obtained solutions in terms of particular polynomials in a series of papers [14, 15] and recently, in 2017 gives new solutions [16] as second derivatives of polynomials.

Solutions to the Boussinesq equation and the Kadomtsev Petviashvili equation are considered in this paper. We give solutions from elementary exponential functions depending on several parameters. Then we construct rational solution in performing a passage to the limit when one of these parameters goes to 0. We obtain rational solutions as a quotient of a polynomial of degree $N(N+1)-2$ in x and t by a polynomial of degree $N(N+1)$ in x and t , depending on $2N$ parameters. We give explicit solutions in the simplest cases where $N = 1, 2, 3$. We deduce and give explicit expressions of rational solutions to the Kadomtsev-Petviashvili (KP) equation for the cases of orders from 1 to 3.

2 Solutions to the Boussinesq equation

2.1 Solutions to the Boussinesq equation in terms of elementary exponentials

We consider the Boussinesq equation

$$u_{tt} - u_{xx} + (u^2)_{xx} + \frac{1}{3}u_{xxxx} = 0.$$

We define the following notations.

We consider $e, a_j, c_j, d_j, 1 \leq j \leq N$, arbitrary real numbers, and α_j, β_j the numbers defined by

$$\alpha_j = \frac{3}{2}a_j e + \frac{1}{2}\sqrt{1 - 3a_j^2 e^2} \tag{2}$$

and

$$\beta_j = -\frac{3}{2}a_j e + \frac{1}{2}\sqrt{1 - 3a_j^2 e^2}. \tag{3}$$

We consider the following elementary functions

$$f_{ij}(x, t) = \alpha_j^{i-1} \exp(\alpha_j x - \alpha_j^2 t + c_j e^{2N-1}) - \beta_j^{i-1} \exp(\beta_j x - \beta_j^2 t + d_j e^{2N-1}),$$

for $1 \leq i \leq N$. (4)

Then, we have the following statement :

Theorem 2.1 *The function v defined by*

$$v(x, t) = 2\partial_x^2 \ln(\det(f_{ij})_{(i,j) \in [1,N]}) \quad (5)$$

is a solution to the Boussinesq equation (1) with e , a_j , c_j and d_j , $1 \leq j \leq N$ arbitrarily real parameters.

2.2 Rational solutions to the Boussinesq equation

To obtain rational solutions to the Boussinesq equation, we are going to perform a limit when the parameter e tends to 0.

2.2.1 Rational solutions as a limit case

We get the following result :

Theorem 2.2 *The function v defined by*

$$v(x, t) = \lim_{e \rightarrow 0} 2\partial_x^2 \ln(\det(f_{ij})_{(i,j) \in [1,N]}) \quad (6)$$

is a rational solution to the Boussinesq equation (1) depending on $3N$ parameters a_j , c_j and d_j , $1 \leq j \leq N$; the numerator is a polynomial of degree $N(N+1) - 2$ in x and t , the denominator a polynomial of degree $N(N+1)$ in x and t .

2.2.2 Degenerate rational solutions

We consider the functions g_{ij} defined by :

$$g_{i1} = f_{i1}|_{e=0}, \text{ for } 1 \leq i \leq N, \text{ and}$$

$$g_{ij} = \frac{\partial^{j-1} f_{ij}}{\partial e^{j-1}|_{e=0}}, \text{ for } 1 \leq i \leq N, 2 \leq j \leq N.$$

Then get the following result :

Theorem 2.3 *The function v defined by*

$$v(x, t) = 2\partial_x^2 \ln(\det(g_{ij})_{(i,j) \in [1,N]}) \quad (7)$$

is a rational solution to the Boussinesq equation (1) depending on $3N$ parameters a_j , c_j and d_j , $1 \leq j \leq N$; the numerator is a polynomial of degree $N(N+1) - 2$ in x and t , the denominator a polynomial of degree $N(N+1)$ in x and t .

So we obtain an infinite hierarchy of rational solutions to the Boussinesq equation depending on the integer N .

In the following we give some examples of rational solutions.

These results are consequences of the previous result (7).

But, it is also possible to prove it directly in replacing the expressions of each of the solutions given in the corresponding equation and check that the relation is verified.

2.3 First order rational solutions

We have the following result at order $N = 1$:

Proposition 2.1 *The function v defined by*

$$v(x, t) = \frac{-18 a_1^2}{(-3 a_1 x - c_1 + 3 t a_1 + d_1)^2}, \quad (8)$$

is a solution to the Boussinesq equation (1) with a_1, c_1, d_1 arbitrarily real parameters.

Remark 2.1 *If $a_1 = 0$, then the solution is the trivial solution 0.*

Remark 2.2 *The solution (8) can be simplified and be rewritten as a solution depending on one parameter C_1 .*

$$v(x, t) = \frac{-18}{(-3x + 3t + C_1)^2}. \quad (9)$$

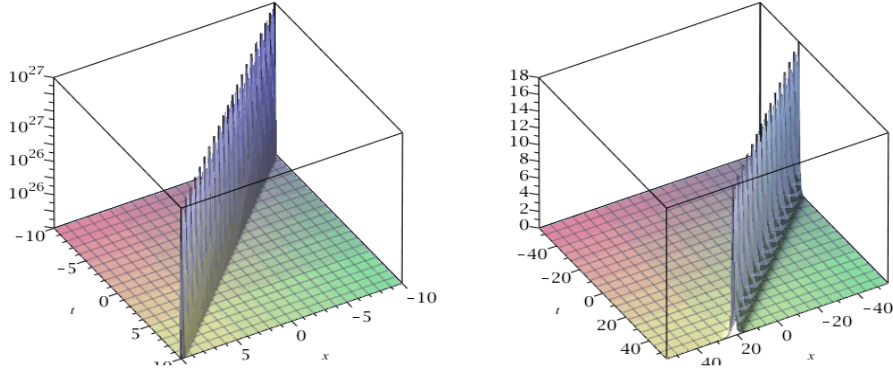


Figure 1. Solution of order 1 to (1), on the left $a_1 = 10^{13}, c_1 = 1, d_1 = 0$; on the right $a_1 = 1, c_1 = 10^2, d_1 = 0$.

Remark 2.3 *The case where $a_1 = 1, c_1 = 0, d_1 = 10^2$ gives the same figure as the case $a_1 = 1, c_1 = 10^2, d_1 = 0$.*

The roles played by the parameters c and d being the same, we only give the figures with parameters d equal to 0.

2.4 Second order rational solutions

Proposition 2.2 *The function v defined by*

$$v(x, t) = -2 \frac{n(x, t)}{d(x, t)^2}, \quad (10)$$

with

$$\begin{aligned} n(x, t) = & 9 a_1 a_2 (27 a_1^5 a_2 + 243 a_2^5 a_1 - 162 a_2^3 a_1^3) x^4 + 9 a_1 a_2 (-972 a_2^5 t a_1 - 324 a_2^5 a_1 + \\ & 216 a_2^3 a_1^3 + 648 a_2^3 a_1^3 t - 36 a_1^5 a_2 - 108 a_1^5 t a_2) x^3 + 9 a_1 a_2 (972 a_2^5 t a_1 - 648 a_2^3 a_1^3 t - \\ & 108 a_2^3 a_1^3 - 972 a_2^3 a_1^3 t^2 + 162 a_1^5 t^2 a_2 + 162 a_2^5 a_1 + 18 a_1^5 a_2 + 108 a_1^5 t a_2 + 1458 a_2^5 t^2 a_1) x^2 + \\ & 9 a_1 a_2 (-108 a_1^5 t^3 a_2 + 216 a_2^2 c_2 a_1 + 72 d_2 a_1^3 - 432 a_2^3 a_1^3 t + 648 a_2^3 a_1^3 t^3 - 24 a_1^2 d_1 a_2 + \\ & 648 a_2^3 a_1^3 t^2 + 648 a_2^5 t a_1 - 72 a_1^3 c_2 + 72 d_1 a_2^3 + 24 a_1^2 c_1 a_2 - 972 a_2^5 a_1 t^3 - 72 a_2^3 c_1 - \\ & 972 a_2^5 t^2 a_1 + 72 a_1^5 t a_2 - 216 a_2^2 d_2 a_1 - 108 a_1^5 t^2 a_2) x + 9 a_1 a_2 (24 a_2^3 c_1 + 24 a_1^3 c_2 + \\ & 324 a_2^5 a_1 t^3 + 540 a_2^3 a_1^3 t^2 + 216 a_2^3 a_1^3 t - 216 a_2^3 a_1^3 t^3 + 8 a_1^2 d_1 a_2 - 90 a_1^5 t^2 a_2 - \\ & 36 a_1^5 t a_2 + 36 a_1^5 t^3 a_2 + 243 t^4 a_2^5 a_1 - 162 t^4 a_2^3 a_1^3 + 27 a_1^5 t^4 a_2 + 72 a_2^2 d_2 a_1 - 810 a_2^5 t^2 a_1 - \\ & 324 a_2^5 t a_1 - 72 t a_2^3 d_1 - 72 a_1^3 t d_2 + 216 t a_2^2 d_2 a_1 + 24 a_1^2 t d_1 a_2 - 216 t a_2^2 c_2 a_1 - 24 a_1^2 t c_1 a_2 - \\ & 24 d_2 a_1^3 - 24 d_1 a_2^3 - 8 a_1^2 c_1 a_2 + 72 t a_2^3 c_1 + 72 a_1^3 t c_2 - 72 a_2^2 c_2 a_1), \end{aligned}$$

and

$$\begin{aligned} d(x, t) = & (-9 a_1^3 a_2 + 27 a_1 a_2^3) x^3 + (27 t a_1^3 a_2 - 81 t a_1 a_2^3 + 9 a_1^3 a_2 - 27 a_1 a_2^3) x^2 + \\ & (-27 t^2 a_1^3 a_2 + 81 t^2 a_1 a_2^3 - 18 t a_1^3 a_2 + 54 t a_1 a_2^3) x + 9 t^3 a_1^3 a_2 - 27 t^3 a_1 a_2^3 + 9 t^2 a_1^3 a_2 - \\ & 27 t^2 a_1 a_2^3 + 18 t a_1^3 a_2 - 54 t a_1 a_2^3 - 12 a_1 c_2 + 12 a_1 d_2 + 4 a_2 c_1 - 4 a_2 d_1, \end{aligned}$$

is a rational solution to the Boussinesq equation (1), quotient of two polynomials with numerator of order 4 in x and t , denominator of degree 6 in x and t .

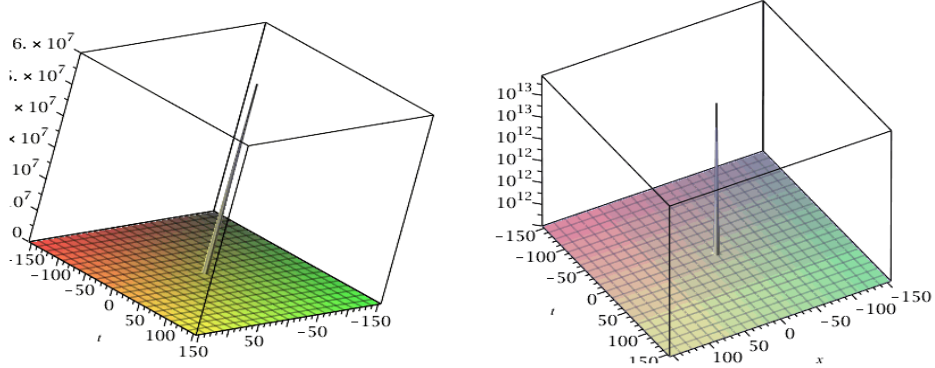


Figure 2. Solution of order 2 to (1); on the left, $a_1 = 10^7$, $a_2 = 1$, $c_1 = 1$, $c_2 = 1$, $d_1 = 0$, $d_2 = 0$; on the right, $a_1 = 1$, $a_2 = 10^7$, $c_1 = 1$, $c_2 = 1$, $d_1 = 0$, $d_2 = 0$.

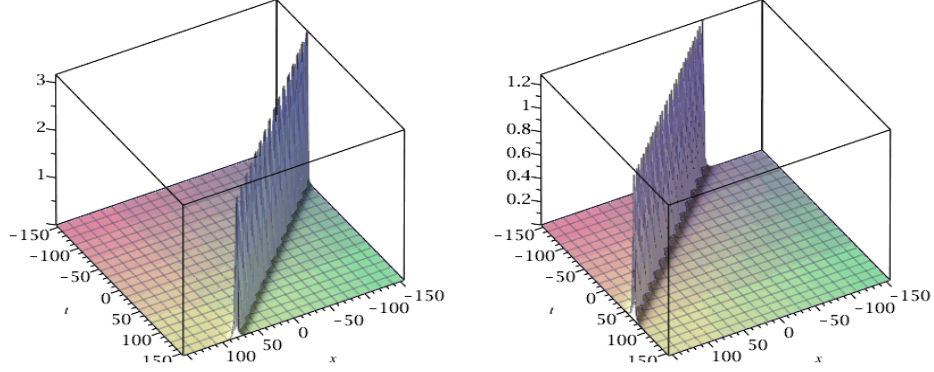


Figure 3. Solution of order 2 to (1); on the left, $a_1 = 1, a_2 = 1, c_1 = 10^7, c_2 = 0, d_1 = 1, d_2 = 1$; on the right, $a_1 = 1, a_2 = 1, c_1 = 0, c_2 = 10^7, d_1 = 0, d_2 = 0$.

2.5 Rational solutions of order three

We get the following rational solutions given by :

Proposition 2.3 *The function v defined by*

$$v(x, t) = -2 \frac{n(x, t)}{d(x, t)^2}, \quad (11)$$

is a rational solution to the Boussinesq equation (1), quotient of two polynomials with numerator of order 10 in x and t , denominator of degree 12 in x and t .

Because of the length of the solution, we give it only in the appendix.

Remark 2.4 *If $c_1 = c_2 = c_3 = d_1 = d_2 = d_3 = 0$, then the determinant in the formula (7) can be simplified by $\frac{(177147)}{80}a_1a_2a_3^3(-80a_2^4 + 360a_3^2a_2^2 + a_1^4 - 30a_3^2a_1^2)$ and the solution to the Boussinesq equation depends no longer on any parameter. If one of the parameters a_1, a_2 or a_3 is equal to 0 then the solution of the Boussinesq equation is the trivial solution (equal to 0).*

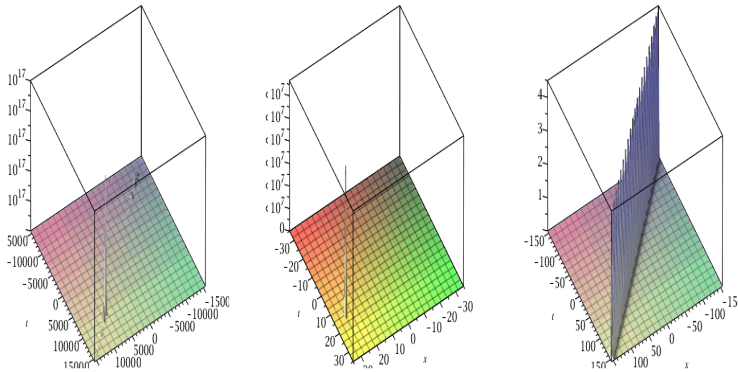


Figure 4. Solution of order 3 to (1); on the left, $a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 0, c_2 = 0, c_3 = 10^7, d_1 = 0, d_2 = 0, d_3 = 0$; in the center, $a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 0, c_2 = 10^7, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; on the right, $a_1 = 1, a_2 = 1, a_3 = 10^7, c_1 = 1, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$.

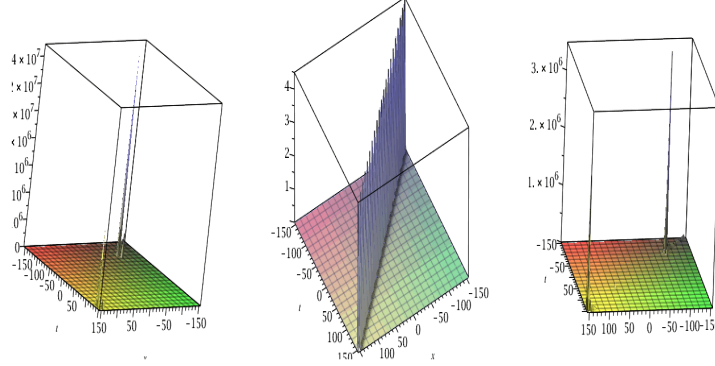


Figure 5. Solution of order 3 to (1) on the left, $a_1 = 1, a_2 = 10^7, a_3 = 1, c_1 = 1, c_2 = 1, c_3 = 10^7, d_1 = 0, d_2 = 0, d_3 = 0$; in the center, $a_1 = 10^7, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 10^7, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; on the right, $a_1 = 1, a_2 = 1, a_3 = 10^7, c_1 = 10^5, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$.

3 Solutions to the Kadomtsev Petviashvili equation

We consider the Kadomtsev Petviashvili equation (KP) which can be written in the form

$$(4u_T - 6uu_X + u_{XX})_X - 3u_{YY} = 0, \quad (12)$$

where subscripts X, Y and T denote as usual partial derivatives.

From the previous study, we can deduce easily solutions to the KP equation. It is sufficient for this, to use the following transformations $x = X + \frac{3iT}{4}, t = Y$ from the solutions to the Boussinesq equation to obtain solutions to the KP equation.

3.1 Solutions to the KP equation

3.2 First order rational solutions

We have the following result at order $N = 1$:

Proposition 3.1 *The function v defined by*

$$v(X, Y, T) = \frac{-288 a_1^2}{(12 i a_1 X + 9 i a_1 T + 4 c_1 - 12 i Y a_1 - 4 d_1)^2}, \quad (13)$$

is a solution to the KP equation (12).

Remark 3.1 The solution (13) can be simplified and be rewritten as depending on one parameter $v(X,Y,T) = \frac{-288}{(12iX + 9iT + 4C_1 - 12iY)^2}$

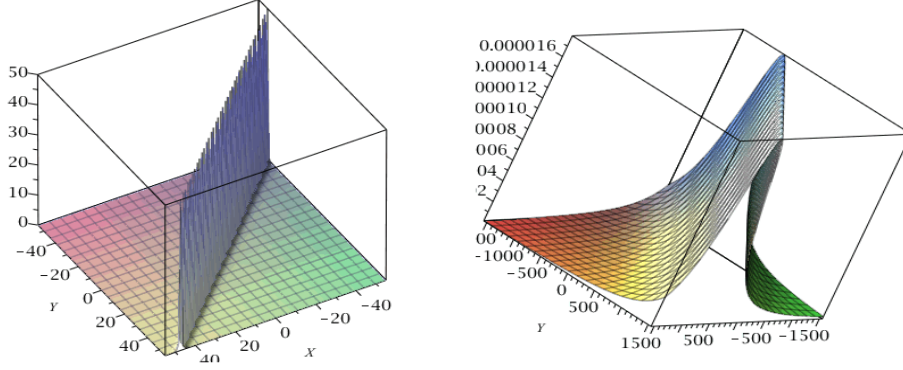


Figure 6. Solution of order 1 to (12), on the left $T = 10$, $a_1 = 10^6$, $c_1 = 1$, $d_1 = 1$; on the right $T = 10$, $a_1 = 1$, $c_1 = 10^3$, $d_1 = 1$.

Remark 3.2 The case where $T = 10$, $a_1 = 1$, $c_1 = 1$, $d_1 = 10^3$ gives the same figure as the case $T = 10$, $a_1 = 1$, $c_1 = 10^3$, $d_1 = 1$.

3.3 Second order rational solutions

We obtain the following solutions :

Proposition 3.2 The function v defined by

$$v(X,Y,T) = -2 \frac{n(X,Y,T)}{d(X,Y,T)^2}, \quad (14)$$

with

$$\begin{aligned} n(X,Y,T) = & 144 a_1 a_2 (-41472 a_2^3 a_1^3 + 62208 a_2^5 a_1 + 6912 a_1^5 a_2) X^4 + 144 a_1 a_2 (-124416 a_2^3 a_1^3 T - \\ & 27648 a_1^5 Y a_2 + 165888 a_2^3 a_1^3 Y + 9216 i a_1^5 a_2 - 55296 i a_2^3 a_1^3 + 186624 a_2^5 a_1 T + 82944 i a_2^5 a_1 + \\ & 20736 a_1^5 a_2 T - 248832 a_2^5 Y a_1) X^3 + 144 a_1 a_2 (-248832 a_2^3 a_1^3 Y^2 - 27648 i a_1^5 Y a_2 + \\ & 23328 a_1^5 a_2 T^2 + 373248 a_2^3 a_1^3 Y T + 165888 i a_2^3 a_1^3 Y - 124416 i a_2^3 a_1^3 T + 41472 a_1^5 Y^2 a_2 - \\ & 62208 a_1^5 Y a_2 T - 559872 a_2^5 Y a_1 T - 139968 a_2^3 a_1^3 T^2 - 41472 a_2^5 a_1 + 27648 a_2^3 a_1^3 + \\ & 209952 a_2^5 a_1 T^2 + 186624 i a_2^5 a_1 T + 373248 a_2^5 Y^2 a_1 - 248832 i a_2^5 Y a_1 + 20736 i a_1^5 a_2 T - \\ & 4608 a_1^5 a_2) X^2 + 144 a_1 a_2 (-419904 a_2^5 Y a_1 T^2 + 279936 a_2^3 a_1^3 Y T^2 - 46656 a_1^5 Y a_2 T^2 + \\ & 62208 a_1^5 Y^2 a_2 T + 559872 a_2^5 Y^2 a_1 T - 373248 a_2^3 a_1^3 Y^2 T - 373248 i a_2^5 Y a_1 T + 248832 i a_2^3 a_1^3 Y T - \\ & 41472 i a_1^5 Y a_2 T - 18432 i a_2^3 c_1 + 41472 a_2^3 a_1^3 T - 6912 a_1^5 a_2 T - 62208 a_2^5 a_1 T + 18432 i d_2 a_1^3 - \\ & 18432 i a_1^3 c_2 + 18432 i d_1 a_2^3 + 139968 i a_2^5 a_1 T^2 - 93312 i a_2^3 a_1^3 T^2 + 15552 i a_1^5 a_2 T^2 + \\ & 27648 i a_1^5 Y^2 a_2 + 248832 i a_2^5 Y^2 a_1 - 165888 i a_2^3 a_1^3 Y^2 - 55296 i a_2^2 d_2 a_1 - 6144 i a_1^2 d_1 a_2 + \\ & 55296 i a_2^2 c_2 a_1 + 6144 i a_1^2 c_1 a_2 - 69984 a_2^3 a_1^3 T^3 + 11664 a_1^5 a_2 T^3 + 104976 a_2^5 a_1 T^3 - \end{aligned}$$

$$\begin{aligned}
& 248832 a_2^5 a_1 Y^3 + 110592 a_2^3 a_1^3 Y + 165888 a_2^3 a_1^3 Y^3 - 18432 a_1^5 Y a_2 - 27648 a_1^5 Y^3 a_2 - \\
& 165888 a_2^5 Y a_1) X + 144 a_1 a_2 (6144 a_2^3 c_1 + 6144 a_1^3 c_2 + 41472 i a_2^2 c_2 a_1 T + 4608 i a_1^2 c_1 a_2 T - \\
& 104976 a_2^5 Y a_1 T^3 + 69984 a_2^3 a_1^3 Y T^3 - 11664 a_1^5 Y a_2 T^3 + 55296 i Y a_2^2 d_2 a_1 + 6144 i a_1^2 Y d_1 a_2 - \\
& 55296 i Y a_2^2 c_2 a_1 - 6144 i a_1^2 Y c_1 a_2 - 139968 i a_2^5 Y a_1 T^2 + 93312 i a_2^3 a_1^3 Y T^2 - 15552 i a_1^5 Y a_2 T^2 + \\
& 20736 i a_1^5 Y^2 a_2 T + 186624 i a_2^5 Y^2 a_1 T - 124416 i a_2^3 a_1^3 Y^2 T - 41472 i a_2^2 d_2 a_1 T - 4608 i a_1^2 d_1 a_2 T - \\
& 13122 a_2^3 a_1^3 T^4 + 19683 a_2^5 a_1 T^4 + 2187 a_1^5 a_2 T^4 + 13824 i d_2 a_1^3 T - 13824 i a_1^3 c_2 T + \\
& 13824 i d_1 a_2^3 T - 23328 i a_2^3 a_1^3 T^3 + 3888 i a_1^5 a_2 T^3 - 82944 i a_2^5 a_1 Y^3 + 55296 i a_2^3 a_1^3 Y + \\
& 55296 i a_2^3 a_1^3 Y^3 - 9216 i a_1^5 Y a_2 - 9216 i a_1^5 Y^3 a_2 - 82944 i a_2^5 Y a_1 - 18432 i Y a_2^3 d_1 - \\
& 18432 i a_1^3 Y d_2 + 18432 i Y a_2^3 c_1 + 18432 i a_1^3 Y c_2 + 34992 i a_2^5 a_1 T^3 - 13824 i a_2^3 c_1 T - \\
& 124416 a_2^5 Y a_1 T + 82944 a_2^3 a_1^3 Y T - 186624 a_2^5 a_1 Y^3 T + 124416 a_2^3 a_1^3 Y^3 T - 13824 a_1^5 Y a_2 T - \\
& 20736 a_1^5 Y^2 a_2 T + 209952 a_2^5 Y^2 a_1 T^2 - 139968 a_2^3 a_1^3 Y^2 T^2 + 23328 a_1^5 Y^2 a_2 T^2 + 62208 Y^4 a_2^5 a_1 - \\
& 41472 Y^4 a_2^3 a_1^3 + 6912 a_1^5 Y^4 a_2 + 2048 a_1^2 d_1 a_2 + 18432 a_2^2 d_2 a_1 - 6144 d_2 a_1^3 - 6144 d_1 a_2^3 + \\
& 15552 a_2^3 a_1^3 T^2 - 2592 a_1^5 a_2 T^2 - 23328 a_2^5 a_1 T^2 - 138240 a_2^3 a_1^3 Y^2 + 207360 a_2^5 Y^2 a_1 + \\
& 23040 a_1^5 Y^2 a_2 - 2048 a_1^2 c_1 a_2 - 18432 a_2^2 c_2 a_1),
\end{aligned}$$

and

$$\begin{aligned}
d(X, Y, T) = & -1728 i a_1 a_2^3 X^3 + 576 i a_1^3 a_2 X^3 + 1728 a_1 a_2^3 X^2 - 576 a_1^3 a_2 X^2 - 3888 i a_1 a_2^3 X^2 T + \\
& 5184 i Y a_1 a_2^3 X^2 - 1728 i Y a_1^3 a_2 X^2 + 1296 i a_1^3 a_2 T X^2 + 7776 i Y a_1 a_2^3 T X + 972 i a_1^3 a_2 T^2 X - \\
& 2916 i a_1 a_2^3 X T^2 - 5184 i Y^2 a_1 a_2^3 X + 1728 i Y^2 a_1^3 a_2 X - 2592 i Y a_1^3 a_2 X T - 864 a_1^3 a_2 T X - \\
& 3456 Y a_1 a_2^3 X + 2592 a_1 a_2^3 T X + 1152 Y a_1^3 a_2 X - 768 a_1 c_2 - 256 a_2 d_1 - 3888 i Y^2 a_1 a_2^3 T + \\
& 2916 i Y a_1 a_2^3 T^2 + 1728 i Y^3 a_1 a_2^3 - 576 i Y^3 a_1^3 a_2 - 3456 i Y a_1 a_2^3 + 1152 i Y a_1^3 a_2 - \\
& 972 i Y a_1^3 a_2 T^2 - 729 i a_1 a_2^3 T^3 + 256 a_2 c_1 + 243 i a_1^3 a_2 T^3 + 768 a_1 d_2 + 1296 i Y^2 a_1^3 a_2 T + \\
& 972 a_1 a_2^3 T^2 - 2592 Y a_1 a_2^3 T - 324 a_1^3 a_2 T^2 + 864 Y a_1^3 a_2 T + 1728 Y^2 a_1 a_2^3 - 576 Y^2 a_1^3 a_2,
\end{aligned}$$

is a rational solution to the KP equation (12), quotient of two polynomials with numerator of degree 4 in x , y and t and denominator of degree 6 in x , y and t .

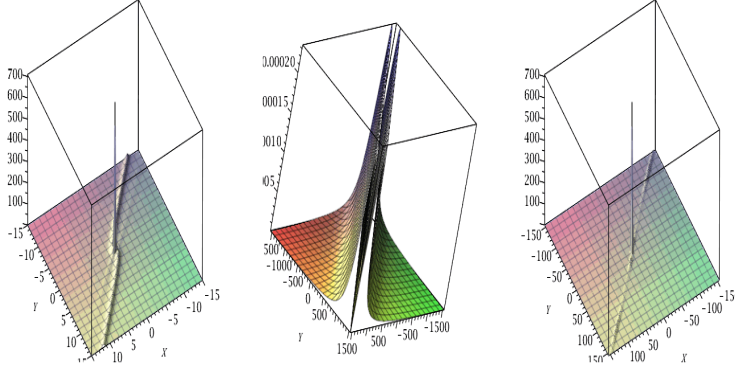


Figure 7. Solution of order 2 to (12); on the left $T = 0, 1$, $a_1 = 1$, $a_2 = 1$, $c_1 = 0$, $c_2 = 0$, $d_1 = 0$, $d_2 = 0$; in the center $T = 0, 1$, $a_1 = 1$, $a_2 = 1$, $c_1 = 0$, $c_2 = 10^8$, $d_1 = 0$, $d_2 = 0$; on the right $T = 0, 1$, $a_1 = 1$, $a_2 = 10^9$, $c_1 = 1$, $c_2 = 1$, $d_1 = 0$, $d_2 = 0$.

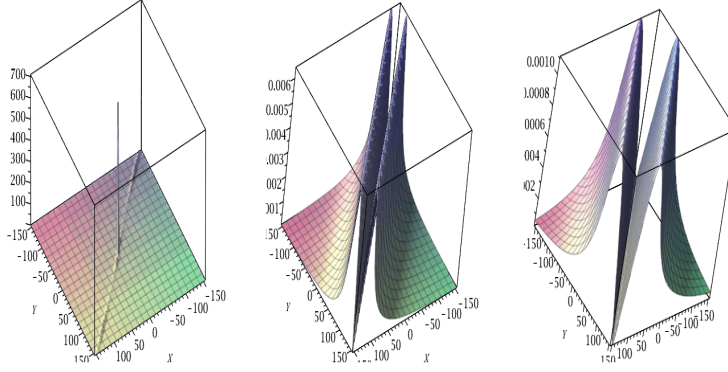


Figure 8. Solution of order 2 to (12); on the left $T = 0, 1, a_1 = 10^6, a_2 = 1, c_1 = 1, c_2 = 1, d_1 = 0, d_2 = 0$; in the center $T = 0, 1, a_1 = 1, a_2 = 1, c_1 = 10^6, c_2 = 0, d_1 = 0, d_2 = 0$; on the right $T = 10, a_1 = 1, a_2 = 1, c_1 = 1, c_2 = 10^7, d_1 = 0, d_2 = 0$.

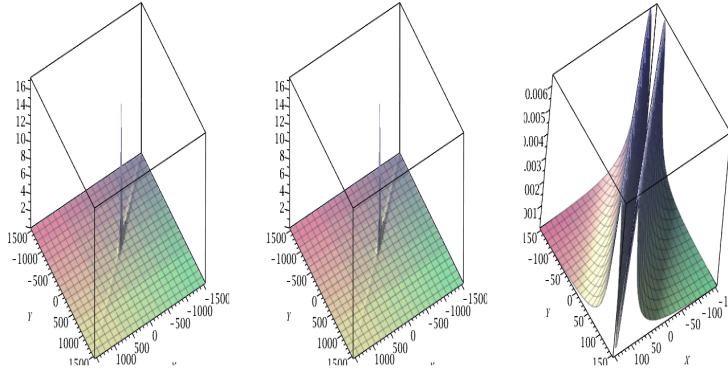


Figure 9. Solution of order 2 to (12); on the left $T = 10, a_1 = 1, a_2 = 10^9, c_1 = 1, c_2 = 1, d_1 = 0, d_2 = 0$; in the center $T = 10, a_1 = 10^{10}, a_2 = 1, c_1 = 1, c_2 = 1, d_1 = 0, d_2 = 0$; on the right $T = 10, a_1 = 1, a_2 = 1, c_1 = 1, c_2 = 10^6, d_1 = 0, d_2 = 0$.

3.4 Rational solutions of order 3

We get the non singular rational solutions given by :

Proposition 3.3 *The function v defined by*

$$v(X,Y,T) = -2 \frac{n(X,Y,T)}{d(X,Y,T)^2}, \quad (15)$$

is a rational solution to the KP equation (12), quotient of two polynomials with numerator of degree 10 in X, Y, T and denominator of degree 12 in X, Y and T .

Because of the length of the solution, we only give it in the appendix.

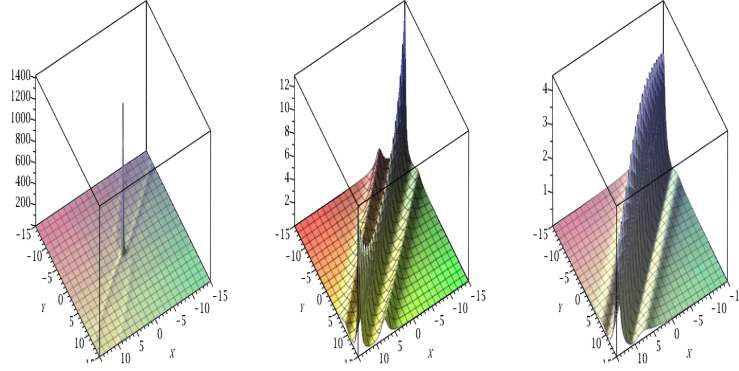


Figure 10. Solution of order 3 to (12); on the left $T = 0, 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 0, c_2 = 0, c_3 = 0, d_1 = 0, d_2 = 0, d_3 = 0$; in the center $T = 0, 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 0, c_3 = 10^6, d_1 = 0, d_2 = 0, d_3 = 0$; on the right $T = 0, 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 0, c_2 = 10^6, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$.

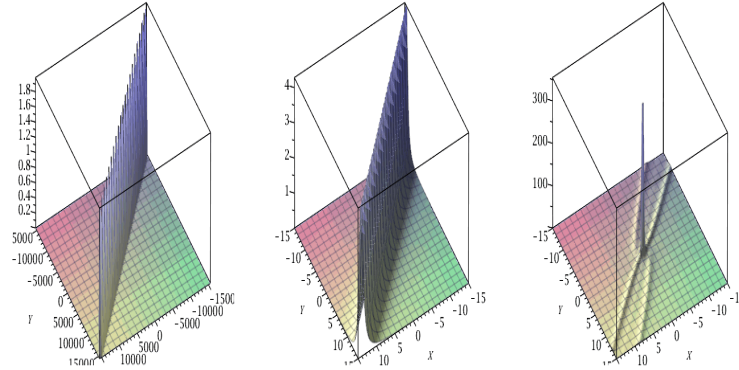


Figure 11. Solution of order 3 to (12); on the left $T = 0, 1, a_1 = 1, a_2 = 1, a_3 = 10^{24}, c_1 = 1, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; in the center $T = 0, 1, a_1 = 1, a_2 = 10^4, a_3 = 1, c_1 = 1, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; on the right $T = 0, 1, a_1 = 10, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 10, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$.

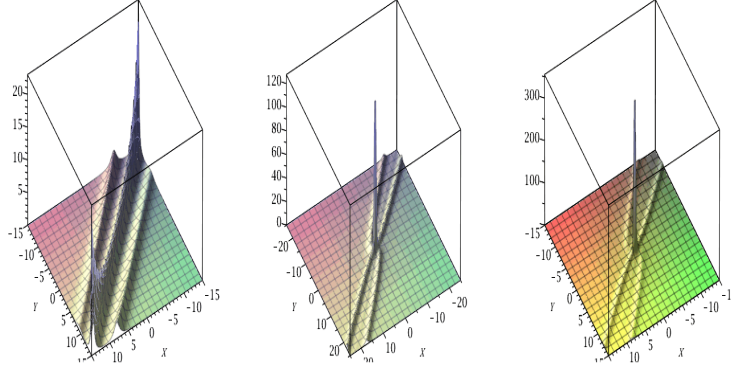


Figure 12. Solution of order 3 to (12); on the left $T = 0, 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 10^6, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; in the center $T = 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 0, c_2 = 0, c_3 = 0, d_1 = 0, d_2 = 0, d_3 = 0$; on the right $T = 1, a_1 = 10^6, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$.

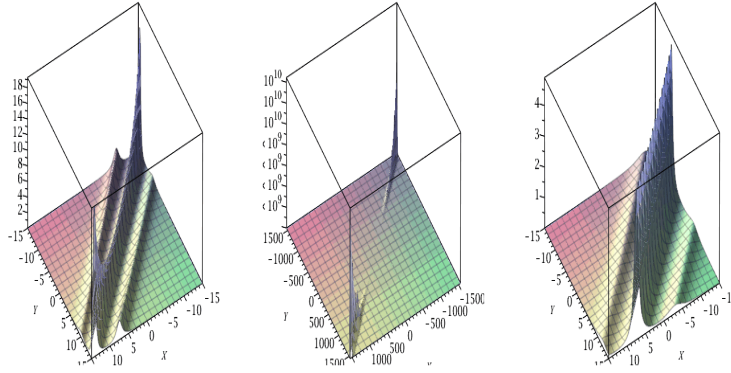


Figure 13. Solution of order 3 to (12); on the left $T = 1, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 10^6, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; in the center $T = 10, a_1 = 10^6, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 1, c_3 = 1, d_1 = 0, d_2 = 0, d_3 = 0$; on the right $T = 10, a_1 = 1, a_2 = 1, a_3 = 1, c_1 = 1, c_2 = 1, c_3 = 10^7, d_1 = 0, d_2 = 0, d_3 = 0$.

4 Conclusion

We have given three types of representations of solutions to the Boussinesq equation. First, solutions in terms of elementary exponential functions have been constructed. In particular, performing a passage to the limit when one parameter goes to 0 we get rational solutions to the Boussinesq equation. We give another representation in terms of determinants without the presence of a limit. So we obtain an infinite hierarchy of multiparametric families of rational

solutions to the Boussinesq equation as a quotient of a polynomial of degree $N(N+1) - 2$ in x, t by a polynomial of degree $N(N+1)$ in x, t depending on $3N$ real parameters.

As a byproduct, we get easily similar rational solutions to the Kadomtsev Petviashvili equation as the quotient of determinants of polynomials, where the numerator is a polynomial of degree $N(N+1) - 2$ in X, Y, T and the denominator is a polynomial of degree $N(N+1)$ in X, Y, T .

In particular, we construct explicit rational solutions to the Boussinesq equation of order 1, 2, 3.

Unlike other equations such as NLS, there are no specific structures that emerge as a function of the parameters.

References

- [1] J. Boussinesq, Théorie de l'intumescence appelée onde solitaire ou de translation se propageant dans un canal rectangulaire, C.R.A.S., V. 72, 755-759, 1871
- [2] J. Boussinesq, Théorie des ondes et des remous qui se propagent le long d'un canal rectangulaire horizontal, en communiquant au liquide contenu dans ce canal des vitesses sensiblement pareilles de la surface au fond, J. Math. Pures Appl., Ser. 2, T. 17, 55-108, 1872
- [3] M.J. Ablowitz, P.A. Clarkson, Solitons, Nonlinear Evolution Equations and Inverse Scattering, L.M.S. Lect. Notes Math., V. 149, C.U.P., 1991
- [4] P. Deift, C. Tomei, E. Trubowitz, Inverse scattering and the Boussinesq equation, Com. Pure Appl. Math., V. 35, 567-628, 1982
- [5] M. Toda, Studies of a nonlinear lattice, Phys. Rep., V. 8, 1-125, 1975
- [6] V.E. Zakharov, On stochastization of one-dimensional chains of nonlinear oscillations, Sov. Phys. JETP, V. 38, 108-110, 1974
- [7] E. Infeld, G. Rowlands, Nonlinear Waves, Solitons and Chaos, C.U.P., 1990
- [8] R. Hirota, J. Satsuma, Non linear evolution equations generated from the Bäcklund transformation for the Boussinesq equation, Prog. of Theor. Phys., V. 57, 797-807, 1977
- [9] M.J. Ablowitz, J. Satsuma, Solitons and rational solutions of nonlinear evolution equations, J. Math. Phys., V. 19, 2180-2186, 1978
- [10] J.J.C. Nimmo, N.C. Freemann, A method of obtaining the N soliton solution of the Boussinesq equation in terms of a wronskian, Phys. Lett., V. 95, N. 1, 4-6, 1983

- [11] V.B. Matveev, A.O. Smirnov, On the Riemann theta function of a trigonal curve and solutions of the Boussinesq and KP equations, *L.M.P.*, V. 14, 25-31, 1987
- [12] V.B. Matveev and M.A. Salle, Darboux transformations and solitons, *Series in Nonlinear Dynamics*, Springer-Verlag, Berlin, 1991
- [13] L.V. Bogdanov, V.E. Zakharov, The Boussinesq equation revisited, *Phys. D*, V. 165, 137-162, 2002
- [14] P.A. Clarkson, Rational solutions of the Boussinesq equation, *Anal. Appl.*, V. 6, 349-369, 2008
- [15] P.A. Clarkson, Rational solutions of the classical Boussinesq system, *Nonlin. Anal. : Real World Appl.*, V. 10, 3361-3371, 2010
- [16] P.A. Clarkson, E. Dowie, Rational solutions of the Boussinesq equation and applications to rogue waves, *Trans. of Math. and its Appl.*, V. 1, 1-26, 2017
- [17] P. Gaillard, V.B. Matveev, Wronskian addition formula and its applications, *Max-Planck-Institut für Mathematik, MPI 02-31*, V. **161**, 2002
- [18] P. Gaillard, A new family of deformations of Darboux-Pöschl-Teller potentials, *Lett. Math. Phys.*, V. **68**, 77-90, 2004
- [19] P. Gaillard, V.B. Matveev, New formulas for the eigenfunctions of the two-particle Calogero-Moser system, *Lett. Math. Phys.*, V. **89**, 1-12, 2009
- [20] P. Gaillard, V.B. Matveev, Wronskian and Casorai determinant representations for Darboux-Pöschl-Teller potentials and their difference extensions, *RIMS Kyoto*, N. 1653, 1-19, 2009
- [21] P. Gaillard, V.B. Matveev, Wronskian and Casorai determinant representations for Darboux-Pöschl-Teller potentials and their difference extensions, *J. Phys A : Math. Theor.*, V. **42**, 1-16, 2009
- [22] P. Gaillard, From finite-gap solutions of KdV in terms of theta functions to solitons and positons, *halshs-00466159*, 2010
- [23] P. Gaillard, Families of quasi-rational solutions of the NLS equation and multi-rogue waves, *J. Phys. A : Meth. Theor.*, V. **44**, 1-15, 2011
- [24] P. Gaillard, Wronskian representation of solutions of the NLS equation and higher Peregrine breathers, *J. Math. Sciences : Adv. Appl.*, V. **13**, N. 2, 71-153, 2012
- [25] P. Gaillard, Degenerate determinant representation of solution of the NLS equation, higher Peregrine breathers and multi-rogue waves, *J. Math. Phys.*, V. **54**, 013504-1-32, 2013

- [26] P. Gaillard, Wronskian representation of solutions of NLS equation and seventh order rogue waves, *J. Mod. Phys.*, V. **4**, N. 4, 246-266, 2013
- [27] P. Gaillard, V.B. Matveev, Wronskian addition formula and Darboux-Pöschl-Teller potentials, *J. Math.*, V. **2013**, ID 645752, 1-10, 2013
- [28] P. Gaillard, Two parameters deformations of ninth Peregrine breather solution of the NLS equation and multi rogue waves, *J. Math.*, V. **2013**, 1-111, 2013
- [29] P. Gaillard, Two-parameters determinant representation of seventh order rogue waves solutions of the NLS equation, *J. Theor. Appl. Phys.*, V. **7**, N. **45**, 1-6, 2013
- [30] P. Gaillard, Six-parameters deformations of fourth order Peregrine breather solutions of the NLS equation, *J. Math. Phys.*, V. **54**, 073519-1-22, 2013
- [31] P. Gaillard, Deformations of third order Peregrine breather solutions of the NLS equation with four parameters, *Phys. Rev. E*, V. **88**, 042903-1-9, 2013
- [32] P. Gaillard, Ten parameters deformations of the sixth order Peregrine breather solutions of the NLS equation, *Phys. Scripta*, V. **89**, 015004-1-7, 2014
- [33] P. Gaillard, The fifth order Peregrine breather and its eight-parameters deformations solutions of the NLS equation, *Commun. Theor. Phys.*, V. **61**, 365-369, 2014
- [34] P. Gaillard, Higher order Peregrine breathers, their deformations and multi-rogue waves, *J. Of Phys. : Conf. Ser.*, V. **482**, 012016-1-7, 2014
- [35] P. Gaillard, M. Gastineau, Eighteen parameter deformations of the Peregrine breather of order ten solutions of the NLS equation, *Int. J. Mod. Phys. C*, V. **26**, N. 2, 1550016-1-14, 2014
- [36] P. Gaillard, Two parameters wronskian representation of solutions of nonlinear Schrödinger equation, eight Peregrine breather and multi-rogue waves, *J. Math. Phys.*, V. **5**, 093506-1-12, 2014
- [37] P. Gaillard, Hierarchy of solutions to the NLS equation and multi-rogue waves, *J. Phys. : Conf. Ser.*, V. **574**, 012031-1-5, 2015
- [38] P. Gaillard, Tenth Peregrine breather solution of the NLS, *Ann. Phys.*, V. **355**, 293-298, 2015
- [39] P. Gaillard, M. Gastineau, The Peregrine breather of order nine and its deformations with sixteen parameters solutions of the NLS equation, *Phys. Lett. A.*, V. **379**, 13091313, 2015

- [40] P. Gaillard, Other $2N-2$ parameters solutions to the NLS equation and $2N+1$ highest amplitude of the modulus of the N -th order AP breather, *J. Phys. A: Math. Theor.*, V. **48**, 145203-1-23, 2015
- [41] P. Gaillard, Multi-parametric deformations of the Peregrine breather of order N solutions to the NLS equation and multi-rogue waves, *Adv. Res.*, V. **4**, 346-364, 2015
- [42] P. Gaillard, Higher order Peregrine breathers solutions to the NLS equation, *Jour. Phys. : Conf. Ser.*, V. **633**, 012106-1-6, 2016
- [43] P. Gaillard, M. Gastineau Patterns of deformations of Peregrine breather of order 3 and 4, solutions to the NLS equation with multi-parameters, *Journal of Theoretical and Applied Physics*, V. **10**,1-7, 2016
- [44] P. Gaillard, M. Gastineau Twenty parameters families of solutions to the NLS equation and the eleventh Peregrine breather, *Commun. Theor. Phys*, V. **65**, 136-144, 2016
- [45] P. Gaillard, Rational solutions to the KPI equation and multi rogue waves, *Annals Of Physics*, V. **367**, 1-5, 2016
- [46] P. Gaillard, M. Gastineau Twenty two parameters deformations of the twelfth Peregrine breather solutions to the NLS equation, *Adv. Res.*, V. , 1-11, 2016
- [47] P. Gaillard, Towards a classification of the quasi rational solutions to the NLS equation, *Theor. And Math. Phys.*, V. **189**, 1440-1449, 2016
- [48] P. Gaillard, Fredholm and Wronskian representations of solutions to the KPI equation and multi-rogue waves, *Jour. of Math. Phys.*, V. **57**, 063505-1-13, doi: 10.1063/1.4953383, 2016
- [49] P. Gaillard, M. Gastineau Families of deformations of the thirteenth Peregrine breather solutions to the NLS equation depending on twenty four parameters, *Jour. Of Bas. And Appl. Res. Int.*, V. **21**, N. 3, 130-139, 2017
- [50] P. Gaillard, From Fredholm and Wronskian representations to rational solutions to the KPI equation depending on $2N2$ parameters, *Int. Jour. of Appl. Sci. And Math.*, V. **4**, N. 3, 60-70, 2017
- [51] P. Gaillard, Families of Rational Solutions of Order 5 to the KPI Equation Depending on 8 Parameters, *New Hor. in Math. Phys.*, V. 1, N. 1, 26-31, 2017
- [52] P. Gaillard, 6-th order rational solutions to the KPI Equation depending on 10 parameters, *Jour. Of Bas. And Appl. Res. Int.*, V. **21**, N. 2, 92-98, 2017

- [53] P. Gaillard, *N-Order rational solutions to the Johnson equation depending on $2N - 2$ parameters*, Int. Jour. of Adv. Res. in Phys. Sci., V. **4**, N. 9, 19-37, 2017
- [54] P. Gaillard, *Families of rational solutions to the KPI equation of order 7 depending on 12 parameters*, Int. Jour. of Adv. Res. in Phys. Sci., V. **4**, N. 11, 24-30, 2017
- [55] P. Gaillard, *Rational solutions to the Johnson equation and rogue waves*, Int. Jour. of Inn. In Sci. and Math., V. **6**, N. 1, 14-19, 2018
- [56] P. Gaillard, *Multiparametric families of solutions of the KPI equation, the structure of their rational representations and multi-rogue waves*, Theo. And Mat. Phys., V. **196**, N. 2, 1174-1199, 2018
- [57] P. Gaillard, *The Johnson Equation, Fredholm and Wronskian representations of solutions and the case of order three*, Adv. In Math. Phys., V. **2018**, 1-18, 2018
- [58] P. Gaillard, *Families of Solutions of Order 5 to the Johnson Equation Depending on 8 Parameters*, NHIMP, V. **2**, N. 4, 53-61, 2018
- [59] P. Gaillard, *Multiparametric families of solutions to the Johnson equation*, J. Phys. : Conf. Series, V. **1141**, 012102-1-10, 2018
- [60] P. Gaillard, *Rational solutions to the Boussinesq equation*, Fund. Jour. Of Math. And Appl., V. , 109-112, 2019
- [61] P. Gaillard, *Differential relations for the solutions to the NLS equation and their different representations*, Comm. In Adv. Math. Sci., V. **2**, N. 4, 1-4, 2019,

Appendix

Rational solution to the Boussinesq equation of order 3

The function v defined by

$$v(x, t) = -2 \frac{n(x, t)}{d(x, t)^2}, \quad (16)$$

is a solution of order 3 to the Boussinesq equation with

$$\begin{aligned} n(x, t) = & (1239745564800 a_1^4 a_2^6 a_3^8 + 33473130249600 a_1^2 a_2^6 a_3^{10} - 5578855041600 a_1^4 a_2^4 a_3^{10} + 1652994086400 a_1^2 a_2^{10} a_3^6 - \\ & 14876946777600 a_1^2 a_2^8 a_3^8 + 258280326 a_1^{10} a_2^2 a_3^6 - 15496819560 a_1^8 a_2^2 a_3^8 - 41324852160 a_1^6 a_2^6 a_3^6 + 185961834720 a_1^6 a_2^4 a_3^8 + \\ & 232452293400 a_1^6 a_2^2 a_3^{10}) x^{10} + (275499014400 a_1^6 a_2^6 a_3^6 + 55788550416000 a_1^4 a_2^4 a_3^{10} t - 16529940864000 a_1^2 a_2^{10} a_3^6 t - \\ & 1239745564800 a_1^6 a_2^4 a_3^8 - 12397455648000 a_1^4 a_2^6 a_3^8 t - 1721868840 a_1^{10} a_2^2 a_3^6 + 103312130400 a_1^8 a_2^2 a_3^8 + \\ & 148769467776000 a_1^2 a_2^8 a_3^8 t - 334731302496000 a_1^2 a_2^6 a_3^{10} t - 1549681956000 a_1^6 a_2^2 a_3^{10} - 8264970432000 a_1^4 a_2^6 a_3^8 - \\ & 2582803260 a_1^{10} a_2^2 a_3^6 t + 154968195600 a_1^8 a_2^2 a_3^8 t + 99179645184000 a_1^2 a_2^8 a_3^8 - 223154201664000 a_1^2 a_2^6 a_3^{10} + \\ & 37192366944000 a_1^4 a_2^4 a_3^{10} - 11019960576000 a_1^2 a_2^{10} a_3^6 + 413248521600 a_1^6 a_2^6 a_3^6 t - 1859618347200 a_1^6 a_2^4 a_3^8 t - \\ & 2324522934000 a_1^6 a_2^2 a_3^{10}) t^9 + (4735139310 a_1^{10} a_2^2 a_3^6 - 284108358600 a_1^8 a_2^2 a_3^8 - 757622289600 a_1^6 a_2^6 a_3^6 + \\ & 3409300303200 a_1^6 a_2^4 a_3^8 + 42616253790000 a_1^6 a_2^2 a_3^{10} + 22728668688000 a_1^4 a_2^6 a_3^8 - 102279009096000 a_1^4 a_2^4 a_3^{10} + \\ & 30304891584000 a_1^2 a_2^{10} a_3^6 - 272744024256000 a_1^2 a_2^8 a_3^8 + 613674054576000 a_1^2 a_2^6 a_3^{10} + 11622614670 a_1^{10} a_2^2 a_3^6 t - \\ & 697356880200 a_1^8 a_2^2 a_3^8 t^2 - 1859618347200 a_1^6 a_2^6 a_3^6 t^2 + 8368282562400 a_1^6 a_2^4 a_3^8 t^2 + 10460353203000 a_1^6 a_2^2 a_3^{10} t^2 + \\ & 55788550416000 a_1^4 a_2^6 a_3^8 t^2 - 251048476872000 a_1^4 a_2^4 a_3^{10} t^2 + 74384733888000 a_1^2 a_2^{10} a_3^6 t^2 - 669462604992000 a_1^2 a_2^8 a_3^8 t^2 + \\ & 1506290861232000 a_1^2 a_2^6 a_3^{10} t^2 + 15496819560 a_1^{10} a_2^2 a_3^6 t - 929809173600 a_1^8 a_2^2 a_3^8 t - 2479491129600 a_1^6 a_2^6 a_3^6 t + \\ & 11157710083200 a_1^6 a_2^4 a_3^8 t + 13947137604000 a_1^6 a_2^2 a_3^{10} t + 74384733888000 a_1^4 a_2^6 a_3^8 t - 334731302496000 a_1^4 a_2^4 a_3^{10} t + \\ & 99179645184000 a_1^2 a_2^{10} a_3^6 t - 892616806656000 a_1^2 a_2^8 a_3^8 t + 2008387814976000 a_1^2 a_2^6 a_3^{10} t) x^8 + (-6887475360 a_1^{10} a_2^2 a_3^6 + \end{aligned}$$

$$\begin{aligned}
& 413248521600 a_1^8 a_2^2 a_3^8 + 1101996057600 a_1^6 a_2^6 a_3^6 - 4958982259200 a_1^6 a_2^4 a_3^8 - 6198727824000 a_1^6 a_2^2 a_3^{10} - \\
& 33059881728000 a_1^4 a_2^6 a_3^8 + 148769467776000 a_1^4 a_2^4 a_3^{10} - 44079842304000 a_1^2 a_2^{10} a_3^6 + 396718580736000 a_1^2 a_2^8 a_3^8 - \\
& 892616806656000 a_1^2 a_2^6 a_3^{10} - 6198727282400 a_1^{10} a_2^2 a_3^6 t^2 + 3719236694400 a_1^8 a_2^2 a_3^8 t^2 + 9917964518400 a_1^6 a_2^6 a_3^6 t^2 - \\
& 44630840332800 a_1^6 a_2^4 a_3^8 t^2 - 55788550416000 a_1^6 a_2^2 a_3^{10} t^2 - 29753893552000 a_1^4 a_2^6 a_3^8 t^2 + 1338925209984000 a_1^4 a_2^4 a_3^{10} t^2 - \\
& 396718580736000 a_1^2 a_2^{10} a_3^6 t^2 + 3570467226624000 a_1^2 a_2^8 a_3^8 t^2 - 8033551259904000 a_1^2 a_2^6 a_3^{10} t^2 - 37881114480 a_1^{10} a_2^2 a_3^6 t + \\
& 2272866868800 a_1^8 a_2^2 a_3^8 t + 6060978316800 a_1^6 a_2^2 a_3^{10} t - 27274402425600 a_1^6 a_2^4 a_3^8 t - 34093003032000 a_1^6 a_2^2 a_3^{10} t - \\
& 181829349504000 a_1^4 a_2^6 a_3^8 t + 818232072768000 a_1^4 a_2^4 a_3^{10} t - 242439132672000 a_1^2 a_2^{10} a_3^6 t + 2181952194048000 a_1^2 a_2^8 a_3^8 t - \\
& 4909392436608000 a_1^2 a_2^6 a_3^{10} t - 30993639120 a_1^{10} a_2^2 a_3^6 t^3 + 1859618347200 a_1^8 a_2^2 a_3^8 t^3 + 4958982259200 a_1^6 a_2^2 a_3^6 t^3 - \\
& 22315420166400 a_1^6 a_2^4 a_3^8 t^3 - 27894275208000 a_1^6 a_2^2 a_3^{10} t^3 - 148769467776000 a_1^4 a_2^6 a_3^8 t^3 + 669462604992000 a_1^4 a_2^4 a_3^{10} t^3 - \\
& 198359290368000 a_1^2 a_2^{10} a_3^6 t^3 + 1785233613312000 a_1^2 a_2^8 a_3^8 t^3 - 4016775629952000 a_1^2 a_2^6 a_3^{10} t^3 + 7 + (4304672100 a_1^{10} a_2^2 a_3^6 - \\
& 258280326000 a_1^8 a_2^2 a_3^8 - 688747536000 a_1^6 a_2^2 a_3^6 + 3099363912000 a_1^6 a_2^4 a_3^8 + 3874204890000 a_1^6 a_2^2 a_3^{10} + \\
& 2066242608000 a_1^4 a_2^6 a_3^8 - 92980917360000 a_1^4 a_2^4 a_3^{10} + 27549901440000 a_1^2 a_2^{10} a_3^6 - 247949112960000 a_1^2 a_2^8 a_3^8 + \\
& 557885504160000 a_1^2 a_2^6 a_3^{10} + 132583900680 a_1^{10} a_2^2 a_3^6 t^2 - 7955034040800 a_1^8 a_2^2 a_3^8 t^2 - 21213424108800 a_1^6 a_2^6 a_3^6 t^2 + \\
& 95460408489600 a_1^6 a_2^4 a_3^8 t^2 + 119325510612000 a_1^6 a_2^2 a_3^{10} t^2 + 636402723264000 a_1^4 a_2^6 a_3^8 t^2 - 2863812254688000 a_1^4 a_2^4 a_3^{10} t^2 + \\
& 848536964352000 a_1^2 a_2^{10} a_3^6 t^2 - 7636832679168000 a_1^2 a_2^8 a_3^8 t^2 + 17182873528128000 a_1^2 a_2^6 a_3^{10} t^2 + 148212327520 a_1^{10} a_2^2 a_3^6 t - \\
& 2892739651200 a_1^8 a_2^2 a_3^8 t - 7713972403200 a_1^6 a_2^2 a_3^6 t + 34712875814400 a_1^6 a_2^4 a_3^8 t + 43391094768000 a_1^6 a_2^2 a_3^{10} t + \\
& 231419172096000 a_1^4 a_2^6 a_3^8 t - 1041386274432000 a_1^4 a_2^4 a_3^{10} t + 308558896128000 a_1^2 a_2^{10} a_3^6 t - 2777030065152000 a_1^2 a_2^8 a_3^8 t + \\
& 6248317646592000 a_1^2 a_2^6 a_3^{10} t + 54238868460 a_1^{10} a_2^2 a_3^6 t^4 - 3254332107600 a_1^8 a_2^2 a_3^8 t^4 - 8678218953600 a_1^6 a_2^2 a_3^6 t^4 + \\
& 39051985291200 a_1^6 a_2^4 a_3^8 t^4 + 48814981614000 a_1^6 a_2^2 a_3^{10} t^4 + 260346568608000 a_1^4 a_2^6 a_3^8 t^4 - 1171559558736000 a_1^4 a_2^4 a_3^{10} t^4 + \\
& 347128758144000 a_1^2 a_2^{10} a_3^6 t^4 - 3124158823296000 a_1^2 a_2^8 a_3^8 t^4 + 7029357352416000 a_1^2 a_2^6 a_3^{10} t^4 + 1446369825600 a_1^{10} a_2^2 a_3^6 t^3 - \\
& 8678218953600 a_1^8 a_2^2 a_3^8 t^3 - 23141917209600 a_1^6 a_2^2 a_3^6 t^3 + 104138627443200 a_1^6 a_2^4 a_3^8 t^3 + 130173284304000 a_1^6 a_2^2 a_3^{10} t^3 + \\
& 694257516288000 a_1^4 a_2^6 a_3^8 t^3 - 3124158823296000 a_1^4 a_2^4 a_3^{10} t^3 + 925676688384000 a_1^2 a_2^{10} a_3^6 t^3 - 8331090195456000 a_1^2 a_2^8 a_3^8 t^3 + \\
& 18744952939776000 a_1^2 a_2^6 a_3^{10} t^3 + (-204073344000 a_1^4 a_2^4 a_3^5 d_3 - 68874753600 a_1^3 a_2^2 a_3^8 d_1 + 1224440064000 a_1^2 a_2^6 a_3^5 d_3 + \\
& 459165024000 a_1^2 a_2^5 a_3^6 d_2 - 2066242608000 a_1^2 a_2^3 a_3^8 d_2 + 8503056000 a_1^6 a_2^2 a_3^5 d_3 + 2295825120 a_1^5 a_2^2 a_3^6 d_1 + \\
& 826497043200 a_1^4 a_2^4 a_3^8 d_1 - 283435200 a_1^8 a_2^2 a_3^3 d_3 + 3401222400 a_1^6 a_2^4 a_3^3 d_3 - 5739562800 a_1^6 a_2^2 a_3^6 d_2 + \\
& 22674816000 a_1^4 a_2^6 a_3^3 d_3 + 172186884000 a_1^4 a_2^4 a_3^8 d_2 - 272097792000 a_1^2 a_2^8 a_3^3 d_3 - 183666009600 a_1^2 a_2^6 a_3^6 d_1 - \\
& 144636982560 a_1^{10} a_2^2 a_3^6 t^2 + 8678218953600 a_1^8 a_2^2 a_3^8 t^2 + 23141917209600 a_1^6 a_2^2 a_3^6 t^2 - 104138627443200 a_1^6 a_2^4 a_3^8 t^2 - \\
& 130173284304000 a_1^6 a_2^2 a_3^{10} t^2 - 694257516288000 a_1^4 a_2^6 a_3^8 t^2 + 3124158823296000 a_1^4 a_2^4 a_3^{10} t^2 - 925676688384000 a_1^2 a_2^{10} a_3^6 t^2 + \\
& 8331090195456000 a_1^2 a_2^8 a_3^8 t^2 - 18744952939776000 a_1^2 a_2^6 a_3^{10} t^2 - 31854573540 a_1^{10} a_2^2 a_3^6 t + 1911274412400 a_1^8 a_2^2 a_3^8 t + \\
& 5096731766400 a_1^6 a_2^6 a_3^6 t - 22935292948800 a_1^6 a_2^4 a_3^8 t - 28669116186000 a_1^6 a_2^2 a_3^{10} t - 152901952992000 a_1^4 a_2^6 a_3^8 t + \\
& 688058788464000 a_1^4 a_2^4 a_3^{10} t - 20386927056000 a_1^2 a_2^{10} a_3^6 t + 1834823435904000 a_1^2 a_2^8 a_3^8 t - 4128352730784000 a_1^2 a_2^6 a_3^{10} t - \\
& 6508664215 a_1^{10} a_2^2 a_3^6 t^5 + 3905198529120 a_1^8 a_2^2 a_3^8 t^5 + 104138627443200 a_1^6 a_2^2 a_3^6 t^5 - 468623823494400 a_1^6 a_2^4 a_3^8 t^5 - \\
& 58577977936800 a_1^6 a_2^2 a_3^{10} t^5 - 312415882329600 a_1^4 a_2^6 a_3^8 t^5 - 1405871470483200 a_1^4 a_2^4 a_3^{10} t^5 - 416554509772800 a_1^2 a_2^{10} a_3^6 t^5 + \\
& 3748990587955200 a_1^2 a_2^8 a_3^8 t^5 - 8435228822899200 a_1^2 a_2^6 a_3^{10} t^5 - 216955473840 a_1^{10} a_2^2 a_3^6 t^4 + 13017328430400 a_1^8 a_2^2 a_3^8 t^4 + \\
& 34712875814400 a_1^6 a_2^6 a_3^6 t^4 - 156207941164800 a_1^6 a_2^4 a_3^8 t^4 - 195259926456000 a_1^6 a_2^2 a_3^{10} t^4 - 1041386274432000 a_1^4 a_2^6 a_3^8 t^4 + \\
& 4686238234944000 a_1^4 a_2^4 a_3^{10} t^4 - 1388515032576000 a_1^2 a_2^{10} a_3^6 t^4 + 12496635293184000 a_1^2 a_2^8 a_3^8 t^4 - 28117429409664000 a_1^2 a_2^6 a_3^{10} t^4 - \\
& 2651678013600 a_1^{10} a_2^2 a_3^6 t^3 + 15910068081600 a_1^8 a_2^2 a_3^8 t^3 + 42426848217600 a_1^6 a_2^2 a_3^6 t^3 - 190920816979200 a_1^6 a_2^4 a_3^8 t^3 - \\
& 238651021224000 a_1^6 a_2^2 a_3^{10} t^3 - 1272805446528000 a_1^4 a_2^6 a_3^8 t^3 + 5727624509376000 a_1^4 a_2^4 a_3^{10} t^3 - 169707392874000 a_1^2 a_2^{10} a_3^6 t^3 + \\
& 15273665358336000 a_1^2 a_2^8 a_3^8 t^3 - 34365747056256000 a_1^2 a_2^6 a_3^{10} t^3 + 283435200 a_1^8 a_2^2 a_3^3 c_3 - 3401222400 a_1^6 a_2^4 a_3^3 c_3 + \\
& 5739562800 a_1^6 a_2^2 a_3^6 c_2 - 22674816000 a_1^4 a_2^6 a_3^3 c_3 - 172186884000 a_1^4 a_2^4 a_3^8 c_2 + 272097792000 a_1^2 a_2^8 a_3^3 c_3 + \\
& 183666009600 a_1^2 a_2^6 a_3^6 c_1 - 826497043200 a_1^2 a_2^4 a_3^8 c_1 - 8503056000 a_1^6 a_2^2 a_3^5 c_3 - 2295825120 a_1^5 a_2^2 a_3^6 c_1 + \\
& 204073344000 a_1^4 a_2^4 a_3^8 c_3 + 68874753600 a_1^3 a_2^2 a_3^8 c_1 - 1224440064000 a_1^2 a_2^6 a_3^5 c_3 - 459165024000 a_1^2 a_2^5 a_3^6 c_2 + \\
& 2066242608000 a_1^2 a_2^3 a_3^8 c_2 + (680244480000 a_1^4 a_2^4 a_3^5 d_3 + 229582512000 a_1^3 a_2^2 a_3^8 d_1 - 408146688000 a_1^2 a_2^5 a_3^6 d_3 - \\
& 153055008000 a_1^2 a_2^5 a_3^6 d_2 + 688747536000 a_1^2 a_2^3 a_3^8 d_2 - 28343520000 a_1^6 a_2^2 a_3^5 d_3 - 7652750400 a_1^5 a_2^2 a_3^6 d_1 - \\
& 2754990144000 a_1^4 a_2^4 a_3^8 d_1 + 944784000 a_1^8 a_2^2 a_3^3 d_3 - 11337408000 a_1^6 a_2^4 a_3^3 d_3 + 19131876000 a_1^6 a_2^2 a_3^6 d_2 - \\
& 75582720000 a_1^4 a_2^6 a_3^3 d_3 - 573956280000 a_1^4 a_2^4 a_3^8 d_2 + 906992640000 a_1^2 a_2^8 a_3^3 d_3 + 612220032000 a_1^2 a_2^6 a_3^6 d_1 + \\
& 1417176000 a_1^8 a_2^2 a_3^3 t d_3 - 17006112000 a_1^6 a_2^4 a_3^3 t d_3 + 28697814000 a_1^6 a_2^2 a_3^6 t d_2 - 11337408000 a_1^4 a_2^6 a_3^3 t d_3 - \\
& 860934420000 a_1^4 a_2^4 a_3^8 t d_2 + 1360488960000 a_1^2 a_2^8 a_3^3 t d_3 + 918330048000 a_1^2 a_2^6 a_3^6 t d_1 - 4132485216000 a_1^2 a_2^4 a_3^8 t d_1 + \\
& 1020366720000 a_1^4 a_2^4 a_3^5 t d_3 + 344373768000 a_1^3 a_2^2 a_3^8 t d_1 - 6122200320000 a_1^2 a_2^6 a_3^5 t d_3 - 2295825120000 a_1^2 a_2^5 a_3^6 t d_2 + \\
& 10331213040000 a_1^2 a_2^3 a_3^8 t d_2 - 42515280000 a_1^6 a_2^2 a_3^5 t d_3 - 11479125600 a_1^5 a_2^2 a_3^6 t d_1 + 133444835100 a_1^{10} a_2^2 a_3^6 t^2 - \\
& 8006690106000 a_1^8 a_2^2 a_3^8 t^2 - 21351173616000 a_1^6 a_2^2 a_3^6 t^2 + 96080281272000 a_1^6 a_2^4 a_3^8 t^2 + 120100351590000 a_1^6 a_2^2 a_3^{10} t^2 + \\
& 640535208480000 a_1^4 a_2^6 a_3^8 t^2 - 2882408438160000 a_1^4 a_2^4 a_3^{10} t^2 + 854046944640000 a_1^2 a_2^{10} a_3^6 t^2 - 7686422501760000 a_1^2 a_2^8 a_3^8 t^2 + \\
& 17294450628960000 a_1^2 a_2^6 a_3^{10} t^2 + 8609344200 a_1^{10} a_2^2 a_3^6 t - 516560652000 a_1^8 a_2^2 a_3^8 t - 1377495072000 a_1^6 a_2^2 a_3^6 t + \\
& 6198727824000 a_1^6 a_2^4 a_3^8 t + 7748409780000 a_1^6 a_2^2 a_3^{10} t + 4132485216000 a_1^4 a_2^6 a_3^8 t - 18596183472000 a_1^4 a_2^4 a_3^{10} t + \\
& 55099802880000 a_1^2 a_2^{10} a_3^6 t - 495898225920000 a_1^2 a_2^8 a_3^8 t + 115771008320000 a_1^2 a_2^6 a_3^{10} t + 54238868460 a_1^{10} a_2^2 a_3^6 t^6 - \\
& 3254332107600 a_1^8 a_2^2 a_3^8 t^6 - 8678218953600 a_1^6 a_2^2 a_3^6 t^6 + 39051985291200 a_1^6 a_2^4 a_3^8 t^6 + 48814981614000 a_1^6 a_2^2 a_3^{10} t^6 + \\
& 260346568608000 a_1^4 a_2^6 a_3^8 t^6 - 1171559558736000 a_1^4 a_2^4 a_3^{10} t^6 + 347128758144000 a_1^2 a_2^{10} a_3^6 t^6 - 3124158823296000 a_1^2 a_2^8 a_3^8 t^6 + \\
& 7029357352416000 a_1^2 a_2^6 a_3^{10} t^6 + 216955473840 a_1^{10} a_2^2 a_3^6 t^5 - 13017328430400 a_1^8 a_2^2 a_3^8 t^5 - 34712875814400 a_1^6 a_2^2 a_3^6 t^5 + \\
& 156207941164800 a_1^6 a_2^4 a_3^8 t^5 + 195259926456000 a_1^6 a_2^2 a_3^{10} t^5 + 1041386274432000 a_1^4 a_2^6 a_3^8 t^5 - 4686238234944000 a_1^4 a_2^4 a_3^{10} t^5 + \\
& 1388515032576000 a_1^2 a_2^{10} a_3^6 t^5 - 12496635293184000 a_1^2 a_2^8 a_3^8 t^5 + 28117429409664000 a_1^2 a_2^6 a_3^{10} t^5 + 331459751700 a_1^{10} a_2^2 a_3^6 t^4 - \\
& 19887585102000 a_1^8 a_2^2 a_3^8 t^4 - 53033560272000 a_1^6 a_2^2 a_3^6 t^4 + 238651021224000 a_1^6 a_2^4 a_3^8 t^4 + 298313776530000 a_1^6 a_2^2 a_3^{10} t^4 + \\
& 1591006808160000 a_1^4 a_2^6 a_3^8 t^4 - 7159530636720000 a_1^4 a_2^4 a_3^{10} t^4 + 2121342410880000 a_1^2 a_2^{10} a_3^6 t^4 - 19092081697920000 a_1^2 a_2^8 a_3^8 t^4 + \\
& 42957183820320000 a_1^2 a_2^6 a_3^{10} t^4 + 241061637600 a_1^{10} a_2^2 a_3^6 t^3 - 14463698256000 a_1^8 a_2^2 a_3^8 t^3 - 38569862016000 a_1^6 a_2^2 a_3^6 t^3 + \\
& 173564379072000 a_1^6 a_2^4 a_3^8 t^3 + 216955473840000 a_1^6 a_2^2 a_3^{10} t^3 + 1157095860480000 a_1^4 a_2^6 a_3^8 t^3 - 5206931372160000 a_1^4 a_2^4 a_3^{10} t^3 + \\
& 1542794480640000 a_1^2 a_2^{10} a_3^6 t^3 - 13885150325760000 a_1^2 a_2^8 a_3^8 t^3 + 31241588232960000 a_1^2 a_2^6 a_3^{10} t^3 - 1417176000 a_1^8 a_2^2 a_3^3 t c_3 + \\
& 17006112000 a_1^6 a_2^4 a_3^3 t c_3 - 28697814000 a_1^6 a_2^2 a_3^6 t c_2 + 11337408000 a_1^4 a_2^6 a_3^3 t c_3 + 860934420000 a_1^4 a_2^4 a_3^8 t c_2 - \\
& 1360488960000 a_1^2 a_2^8 a_3^3 t c_3 - 918330048000 a_1^2 a_2^6 a_3^6 t c_1 + 4132485216000 a_1^2 a_2^4 a_3^8 t c_1 + 42515280000 a_1^6 a_2^2 a_3^5 t c_3 + \\
& 11479125600 a_1^5 a_2^2 a_3^6 t c_1 - 1020366720000 a_1^4 a_2^4 a_3^5 t c_3 - 344373768000 a_1^3 a_2^2 a_3^8 t c_1 + 6122200320000 a_1^2 a_2^6 a_3^5 t c_3 + \\
& 2295825120000 a_1^2 a_2^5 a_3^6 t c_2 - 10331213040000 a_1^2 a_2^3 a_3^8 t c_2 - 944784000 a_1^8 a_2^2 a_3^3 c_3 + 11337408000 a_1^6 a_2^4 a_3^3 c_3 - \\
& 19131876000 a_1^6 a_2^2 a_3^6 c_2 + 75582720000 a_1^4 a_2^6 a_3^3 c_3 + 573956280000 a_1^4 a_2^4 a_3^8 c_2 - 906992640000 a_1^2 a_2^8 a_3^3 c_3 -
\end{aligned}$$

$$\begin{aligned}
& 612220032000 a_1 a_2^6 a_3^6 c_1 + 2754990144000 a_1 a_2^4 a_3^8 c_1 + 28343520000 a_1^6 a_2^2 a_3^5 c_3 + 7652750400 a_1^5 a_2^2 a_3^6 c_1 - \\
& 680244480000 a_1^4 a_2^4 a_3^5 c_3 - 229582512000 a_1^3 a_2^2 a_3^8 c_1 + 4081466880000 a_1^2 a_2^6 a_3^5 c_3 + 1530550080000 a_1^2 a_2^5 a_3^6 c_2 - \\
& 6887475360000 a_1^2 a_2^3 a_3^8 c_2 x^4 + (-831409920000 a_1^4 a_2^4 a_3^5 d_3 - 280600848000 a_1^3 a_2^2 a_3^8 d_1 + 4988459520000 a_1^2 a_2^6 a_3^5 d_3 + \\
& 1870672320000 a_1^2 a_2^5 a_3^6 d_2 - 8418025440000 a_1^2 a_2^3 a_3^8 d_2 + 34642080000 a_1^6 a_2^2 a_3^5 d_3 + 9353361600 a_1^5 a_2^2 a_3^6 d_1 + \\
& 3367210176000 a_1 a_2^4 a_3^8 d_1 - 1154736000 a_1^8 a_2^2 a_3^3 d_3 + 13856832000 a_1^6 a_2^4 a_3^3 d_3 - 23383404000 a_1^6 a_2 a_3^6 d_2 + \\
& 92378880000 a_1^4 a_2^6 a_3^3 d_3 + 701502120000 a_1^4 a_2 a_3^8 d_2 - 1108546560000 a_1^2 a_2^8 a_3^3 d_3 - 748268928000 a_1 a_2^6 a_3^6 d_1 - \\
& 2834352000 a_1^8 a_2^2 a_3^3 t^2 d_3 + 34012224000 a_1^6 a_2^4 a_3^3 t^2 d_3 - 57395628000 a_1^6 a_2 a_3^6 t^2 d_2 + 226748160000 a_1^4 a_2^6 a_3^3 t^2 d_3 + \\
& 1721868840000 a_1^4 a_2 a_3^8 t^2 d_2 - 2720977920000 a_1^2 a_2^8 a_3^3 t^2 d_3 - 1836660096000 a_1 a_2^6 a_3^6 t^2 d_1 + 8264970432000 a_1 a_2^4 a_3^8 t^2 d_1 - \\
& 3779136000 a_1^8 a_2^2 a_3^3 t d_3 + 45349632000 a_1^6 a_2^4 a_3^3 t d_3 - 76527504000 a_1^6 a_2 a_3^6 t d_2 + 302330880000 a_1^4 a_2^6 a_3^3 t d_3 + \\
& 2295825120000 a_1^4 a_2 a_3^8 t d_2 - 3627970560000 a_1^2 a_2^8 a_3^3 t d_3 - 2448880128000 a_1 a_2^6 a_3^6 t d_1 + 11019960576000 a_1 a_2^4 a_3^8 t d_1 - \\
& 2720977920000 a_1^4 a_2^4 a_3^5 t d_3 - 9183300480000 a_1^3 a_2^2 a_3^8 t d_1 + 16325867520000 a_1^2 a_2^6 a_3^5 t d_3 + 6122200320000 a_1^2 a_2^5 a_3^6 t d_2 - \\
& 27549901440000 a_1^2 a_2^3 a_3^8 t d_2 + 85030560000 a_1^6 a_2^2 a_3^5 t^2 d_3 + 22958251200 a_1^5 a_2^2 a_3^6 t^2 d_1 - 2040733440000 a_1^4 a_2^4 a_3^5 t^2 d_3 - \\
& 6887475360000 a_1^3 a_2^2 a_3^8 t^2 d_1 + 12244400640000 a_1^2 a_2^6 a_3^5 t^2 d_3 + 4591650240000 a_1^2 a_2^5 a_3^6 t^2 d_2 - 20662426080000 a_1^2 a_2^3 a_3^8 t^2 d_2 + \\
& 1133740800000 a_1^6 a_2^2 a_3^5 t d_3 + 306110016000 a_1^5 a_2^2 a_3^6 t d_1 - 137749507200 a_1^10 a_2^2 a_3^6 t^2 + 8264970432000 a_1^8 a_2^2 a_3^8 t^2 + \\
& 22039921152000 a_1^6 a_2^6 a_3^6 t^2 - 99179645184000 a_1^6 a_2^4 a_3^8 t^2 - 12397456480000 a_1^6 a_2^2 a_3^10 t^2 - 661197634560000 a_1^4 a_2^6 a_3^8 t^2 + \\
& 2975389355520000 a_1^4 a_2^4 a_3^10 t^2 - 881596846080000 a_1^2 a_2^10 a_3^6 t^2 + 7934371614720000 a_1^2 a_2^8 a_3^8 t^2 - 17852336133120000 a_1^2 a_2^6 a_3^10 t^2 - \\
& 30993639120 a_1^10 a_2^2 a_3^6 t^7 + 1859618347200 a_1^8 a_2^2 a_3^8 t^7 + 4958982259200 a_1^6 a_2^6 a_3^6 t^7 - 22315420166400 a_1^6 a_2^4 a_3^8 t^7 - \\
& 27894275208000 a_1^6 a_2^2 a_3^10 t^7 - 148769467776000 a_1^4 a_2^6 a_3^8 t^7 + 669462604992000 a_1^4 a_2^4 a_3^10 t^7 - 198359290368000 a_1^2 a_2^10 a_3^6 t^7 + \\
& 1785233613312000 a_1^2 a_2^8 a_3^8 t^7 - 4016775629952000 a_1^2 a_2^6 a_3^10 t^7 - 144636982560 a_1^10 a_2^2 a_3^6 t^6 + 8678218953600 a_1^8 a_2^2 a_3^8 t^6 + \\
& 23141917209600 a_1^6 a_2^6 a_3^6 t^6 - 104138627443200 a_1^6 a_2^4 a_3^8 t^6 - 130173284304000 a_1^6 a_2^2 a_3^10 t^6 - 694257516288000 a_1^4 a_2^6 a_3^8 t^6 + \\
& 3124158823296000 a_1^4 a_2^4 a_3^10 t^6 - 925676688384000 a_1^2 a_2^10 a_3^6 t^6 + 8331090195456000 a_1^2 a_2^8 a_3^8 t^6 - 18744952939776000 a_1^2 a_2^6 a_3^10 t^6 - \\
& 265167801360 a_1^10 a_2^2 a_3^6 t^5 + 15910068081600 a_1^8 a_2^2 a_3^8 t^5 + 42426848217600 a_1^6 a_2^6 a_3^6 t^5 - 190920816979200 a_1^6 a_2^4 a_3^8 t^5 - \\
& 238651021224000 a_1^6 a_2^2 a_3^10 t^5 - 1272805446528000 a_1^4 a_2^6 a_3^8 t^5 + 5727624509376000 a_1^4 a_2^4 a_3^10 t^5 - 1697073928704000 a_1^2 a_2^10 a_3^6 t^5 + \\
& 15273665358336000 a_1^2 a_2^8 a_3^8 t^5 - 34365747056256000 a_1^2 a_2^6 a_3^10 t^5 - 241061637600 a_1^10 a_2^2 a_3^6 t^4 + 14463698256000 a_1^8 a_2^2 a_3^8 t^4 + \\
& 38569862016000 a_1^6 a_2^6 a_3^6 t^4 - 173564379072000 a_1^6 a_2^4 a_3^8 t^4 - 216955473840000 a_1^6 a_2^2 a_3^10 t^4 - 1157095860480000 a_1^4 a_2^6 a_3^8 t^4 + \\
& 520693172160000 a_1^4 a_2^4 a_3^10 t^4 - 1542794480640000 a_1^2 a_2^10 a_3^6 t^4 + 13885150325760000 a_1^2 a_2^8 a_3^8 t^4 - 31241588232960000 a_1^2 a_2^6 a_3^10 t^4 - \\
& 3013237040000 a_1^10 a_2^2 a_3^6 t^3 + 18079622820000 a_1^8 a_2^2 a_3^8 t^3 + 25212327520000 a_1^6 a_2^6 a_3^6 t^3 - 216955473840000 a_1^6 a_2^4 a_3^8 t^3 + \\
& 31241588232960000 a_1^6 a_2^2 a_3^10 t^3 - 1446369825600000 a_1^4 a_2^6 a_3^8 t^3 + 6508664215200000 a_1^4 a_2^4 a_3^10 t^3 - 1928493100800000 a_1^2 a_2^10 a_3^6 t^3 + \\
& 17356437907200000 a_1^2 a_2^8 a_3^8 t^3 - 39051985291200000 a_1^2 a_2^6 a_3^10 t^3 + 2834352000 a_1^8 a_2^2 a_3^3 t^2 c_3 - 34012224000 a_1^6 a_2^4 a_3^3 t^2 c_3 + \\
& 57395628000 a_1^6 a_2 a_3^6 t^2 c_2 - 226748160000 a_1^4 a_2^6 a_3^3 t^2 c_3 - 1721868840000 a_1^4 a_2 a_3^8 t^2 c_2 + 2720977920000 a_1^2 a_2^8 a_3^3 t^2 c_3 + \\
& 1836660096000 a_1 a_2^6 a_3^6 t^2 c_1 - 8264970432000 a_1 a_2^4 a_3^8 t^2 c_1 + 3779136000 a_1^8 a_2^2 a_3^3 t c_3 - 45349632000 a_1^6 a_2^4 a_3^3 t c_3 + \\
& 76527504000 a_1^6 a_2 a_3^6 t c_2 - 302330880000 a_1^4 a_2^6 a_3^3 t c_3 - 2295825120000 a_1^4 a_2 a_3^8 t c_2 + 3627970560000 a_1^2 a_2^8 a_3^3 t c_3 + \\
& 2448880128000 a_1 a_2^6 a_3^6 t c_1 - 11019960576000 a_1 a_2^4 a_3^8 t c_1 - 85030560000 a_1^6 a_2^2 a_3^5 t^2 c_3 - 22958251200 a_1^5 a_2^2 a_3^6 t^2 c_1 + \\
& 2040733440000 a_1^4 a_2^4 a_3^5 t^2 c_3 + 6887475360000 a_1^3 a_2^2 a_3^8 t^2 c_1 - 12244400640000 a_1^2 a_2^6 a_3^5 t^2 c_3 - 4591650240000 a_1^2 a_2^5 a_3^6 t^2 c_2 + \\
& 20662426080000 a_1^2 a_2^3 a_3^8 t^2 c_2 - 113374080000 a_1^6 a_2^2 a_3^5 t c_3 - 30611001600 a_1^5 a_2^2 a_3^6 t c_1 + 2720977920000 a_1^4 a_2^4 a_3^3 t c_3 + \\
& 918330048000 a_1^3 a_2^2 a_3^8 t c_1 - 16325867520000 a_1^2 a_2^6 a_3^5 t c_3 - 6122200320000 a_1^2 a_2^5 a_3^6 t c_2 + 27549901440000 a_1^2 a_2^3 a_3^8 t c_2 + \\
& 1154736000 a_1^8 a_2^2 a_3^3 c_3 - 13856832000 a_1^6 a_2^4 a_3^3 c_3 + 23383404000 a_1^6 a_2 a_3^6 c_2 - 92378880000 a_1^4 a_2^6 a_3^3 c_3 - \\
& 701502120000 a_1^4 a_2 a_3^8 c_2 + 1108546560000 a_1^2 a_2^8 a_3^3 c_3 + 748268928000 a_1 a_2^6 a_3^6 c_1 - 3367210176000 a_1 a_2^4 a_3^8 c_1 - \\
& 34642080000 a_1^6 a_2^2 a_3^5 c_3 - 9353361600 a_1^5 a_2^2 a_3^6 c_1 + 831409920000 a_1^4 a_2^4 a_3^5 c_3 + 280600848000 a_1^3 a_2^2 a_3^8 c_1 - \\
& 4988459520000 a_1^2 a_2^6 a_3^5 c_3 - 1870672320000 a_1^2 a_2^5 a_3^6 c_2 + 8418025440000 a_1^2 a_2^3 a_3^8 c_2 + (453496320000 a_1^4 a_2^4 a_3^5 d_3 + \\
& 1530550080000 a_1^3 a_2^2 a_3^8 d_1 - 2720977920000 a_1^2 a_2^6 a_3^5 d_3 - 12020366720000 a_1^2 a_2^5 a_3^6 d_2 + 4591650240000 a_1^2 a_2^3 a_3^8 d_2 - \\
& 18895680000 a_1^6 a_2^2 a_3^5 d_3 - 5101833600 a_1^5 a_2^2 a_3^6 d_1 - 1836660096000 a_1 a_2^4 a_3^8 d_1 + 629856000 a_1^8 a_2^2 a_3^3 d_3 - \\
& 7558272000 a_1^6 a_2^4 a_3^3 d_3 + 12754584000 a_1^6 a_2 a_3^6 d_2 - 50388480000 a_1^4 a_2^6 a_3^3 d_3 - 382637520000 a_1^4 a_2 a_3^8 d_2 + \\
& 604661760000 a_1^2 a_2^8 a_3^3 d_3 + 408146688000 a_1^2 a_2^6 a_3^6 d_1 + 5668704000 a_1^8 a_2^2 a_3^3 t^2 d_3 - 68024448000 a_1^6 a_2^4 a_3^3 t^2 d_3 + \\
& 1147912560000 a_1^6 a_2 a_3^6 t^2 d_2 - 453496320000 a_1^4 a_2^6 a_3^3 t^2 d_3 - 3443737680000 a_1^4 a_2 a_3^8 t^2 d_2 + 544195840000 a_1^2 a_2^8 a_3^3 t^2 d_3 + \\
& 3673320192000 a_1 a_2^6 a_3^6 t^2 d_1 - 16529940864000 a_1 a_2^4 a_3^8 t^2 d_1 + 3464208000 a_1^8 a_2^2 a_3^3 t d_3 - 41570496000 a_1^6 a_2^4 a_3^3 t d_3 + \\
& 70150212000 a_1^6 a_2 a_3^6 t d_2 - 277136640000 a_1^4 a_2^6 a_3^3 t d_3 - 2104506360000 a_1^4 a_2 a_3^8 t d_2 + 3325639680000 a_1^2 a_2^8 a_3^3 t d_3 + \\
& 2244806784000 a_1 a_2^6 a_3^6 t d_1 - 10101630528000 a_1 a_2^4 a_3^8 t d_1 + 2834352000 a_1^8 a_2^2 a_3^3 t^3 d_3 - 34012224000 a_1^6 a_2^4 a_3^3 t^3 d_3 + \\
& 57395628000 a_1^6 a_2 a_3^6 t^3 d_2 - 226748160000 a_1^4 a_2^6 a_3^3 t^3 d_3 - 1721868840000 a_1^4 a_2 a_3^8 t^3 d_2 + 2720977920000 a_1^2 a_2^8 a_3^3 t^3 d_3 + \\
& 1836660096000 a_1 a_2^6 a_3^6 t^3 d_1 - 8264970432000 a_1 a_2^4 a_3^8 t^3 d_1 + 688747536000 a_1^3 a_2^2 a_3^8 t^3 d_1 - 12244400640000 a_1^2 a_2^6 a_3^5 t^3 d_3 - \\
& 4591650240000 a_1^2 a_2^5 a_3^6 t^3 d_2 + 20662426080000 a_1^2 a_2^3 a_3^8 t^3 d_2 + 2494229760000 a_1^4 a_2^4 a_3^5 t d_3 + 841802544000 a_1^3 a_2^2 a_3^8 t d_1 - \\
& 14965378560000 a_1^2 a_2^6 a_3^5 t d_3 - 5612016960000 a_1^2 a_2^5 a_3^6 t d_2 + 25212327520000 a_1^2 a_2^3 a_3^8 t d_2 - 170061120000 a_1^6 a_2^2 a_3^5 t^2 d_3 - \\
& 45916502400 a_1^5 a_2^2 a_3^6 t^2 d_1 + 4081466880000 a_1^4 a_2^4 a_3^5 t^2 d_3 + 1377495072000 a_1^3 a_2^2 a_3^8 t^2 d_1 - 24488801280000 a_1^2 a_2^6 a_3^5 t^2 d_3 - \\
& 9183300480000 a_1^2 a_2^5 a_3^6 t^2 d_2 + 41324852160000 a_1^2 a_2^3 a_3^8 t^2 d_2 - 103926240000 a_1^6 a_2^2 a_3^5 t d_3 - 28060084800 a_1^5 a_2^2 a_3^6 t d_1 - \\
& 85030560000 a_1^6 a_2^2 a_3^5 t^3 d_3 - 22958251200 a_1^5 a_2^2 a_3^6 t^3 d_1 + 2040733440000 a_1^4 a_2^4 a_3^5 t^3 d_3 + 86093442000 a_1^10 a_2^2 a_3^6 t^2 - \\
& 1565606520000 a_1^8 a_2^2 a_3^8 t^2 - 13774950720000 a_1^6 a_2^6 a_3^6 t^2 + 61987278240000 a_1^6 a_2^4 a_3^8 t^2 + 77484097800000 a_1^6 a_2^2 a_3^10 t^2 + \\
& 413248521600000 a_1^4 a_2^6 a_3^8 t^2 - 1859618347200000 a_1^4 a_2^4 a_3^10 t^2 + 550998028800000 a_1^2 a_2^10 a_3^6 t^2 - 4958982259200000 a_1^2 a_2^8 a_3^8 t^2 + \\
& 11157710083200000 a_1^2 a_2^6 a_3^10 t^2 + 11622614670 a_1^10 a_2^2 a_3^6 t^8 - 697356880200 a_1^8 a_2^2 a_3^8 t^8 - 1859618347200 a_1^6 a_2^6 a_3^6 t^8 + \\
& 8368282562400 a_1^6 a_2^4 a_3^8 t^8 + 10460353203000 a_1^6 a_2^2 a_3^10 t^8 + 55788550416000 a_1^4 a_2^6 a_3^8 t^8 - 251048476872000 a_1^4 a_2^4 a_3^10 t^8 + \\
& 7438473388000 a_1^2 a_2^10 a_3^6 t^8 - 669462604992000 a_1^2 a_2^8 a_3^8 t^8 + 1506290861232000 a_1^2 a_2^6 a_3^10 t^8 + 61987278240 a_1^10 a_2^2 a_3^6 t^7 - \\
& 3719236694400 a_1^8 a_2^2 a_3^8 t^7 - 9917964518400 a_1^6 a_2^6 a_3^6 t^7 + 44630840332800 a_1^6 a_2^4 a_3^8 t^7 + 55788550416000 a_1^6 a_2^2 a_3^10 t^7 + \\
& 297538935552000 a_1^4 a_2^6 a_3^8 t^7 - 1338925209984000 a_1^4 a_2^4 a_3^10 t^7 + 396718580736000 a_1^2 a_2^10 a_3^6 t^7 - 357046722624000 a_1^2 a_2^8 a_3^8 t^7 + \\
& 8033551259904000 a_1^2 a_2^6 a_3^10 t^7 + 132583900680 a_1^10 a_2^2 a_3^6 t^6 - 7955034040800 a_1^8 a_2^2 a_3^8 t^6 - 21213424108800 a_1^6 a_2^6 a_3^6 t^6 + \\
& 95460408489600 a_1^6 a_2^4 a_3^8 t^6 + 119325510612000 a_1^6 a_2^2 a_3^10 t^6 + 636402723264000 a_1^4 a_2^6 a_3^8 t^6 - 2863812254688000 a_1^4 a_2^4 a_3^10 t^6 + \\
& 848536964352000 a_1^2 a_2^10 a_3^6 t^6 - 7636832679168000 a_1^2 a_2^8 a_3^8 t^6 + 17182873528128000 a_1^2 a_2^6 a_3^10 t^6 + 144636982560 a_1^10 a_2^2 a_3^6 t^5 - \\
& 8678218953600 a_1^8 a_2^2 a_3^8 t^5 - 23141917209600 a_1^6 a_2^6 a_3^6 t^5 + 104138627443200 a_1^6 a_2^4 a_3^8 t^5 + 130173284304000 a_1^6 a_2^2 a_3^10 t^5 + \\
& 694257516288000 a_1^4 a_2^6 a_3^8 t^5 - 3124158823296000 a_1^4 a_2^4 a_3^10 t^5 + 925676688384000 a_1^2 a_2^10 a_3^6 t^5 - 8331090195456000 a_1^2 a_2^8 a_3^8 t^5 + \\
& 18744952939776000 a_1^2 a_2^6 a_3^10 t^5 + 357287784300 a_1^10 a_2^2 a_3^6 t^4 - 21437267058000 a_1^8 a_2^2 a_3^8 t^4 - 57166045488000 a_1^6 a_2^6 a_3^6 t^4 + \\
& 257247204696000 a_1^6 a_2^4 a_3^8 t^4 + 321559005870000 a_1^6 a_2^2 a_3^10 t^4 + 1714981364640000 a_1^4 a_2^6 a_3^8 t^4 - 7717416140880000 a_1^4 a_2^4 a_3^10 t^4 + \\
& 2286641819520000 a_1^2 a_2^10 a_3^6 t^4 - 20579776375680000 a_1^2 a_2^8 a_3^8 t^4 + 46304496845280000 a_1^2 a_2^6 a_3^10 t^4 + 361592456400 a_1^10 a_2^2 a_3^6 t^3 -
\end{aligned}$$

$21695547384000 a_1^8 a_2^2 a_3^8 t^3 - 57854793024000 a_1^6 a_2^6 a_3^6 t^3 + 260346568680000 a_1^6 a_2^4 a_3^8 t^3 + 325433210760000 a_1^6 a_2^2 a_3^{10} t^3 +$
 $1735643790720000 a_1^4 a_2^6 a_3^8 t^3 - 7810397058240000 a_1^4 a_2^4 a_3^{10} t^3 + 2314191720960000 a_1^2 a_2^{10} a_3^6 t^3 - 20827725488640000 a_1^2 a_2^8 a_3^8 t^3 +$
 $46862382349440000 a_1^2 a_2^6 a_3^{10} t^3 - 2834352000 a_1^8 a_2^2 a_3^3 t^3 c_3 + 34012224000 a_1^6 a_2^4 a_3^3 t^3 c_3 - 57395628000 a_1^6 a_2 a_3^6 t^3 c_2 +$
 $226748160000 a_1^4 a_2^6 a_3^3 t^3 c_3 + 1721868840000 a_1^4 a_2 a_3^8 t^3 c_2 - 2720977920000 a_1^2 a_2^8 a_3^3 t^3 c_3 - 1836660096000 a_1^2 a_2^6 a_3^8 t^3 c_1 +$
 $8264970432000 a_1^2 a_2^4 a_3^8 t^3 c_1 - 5668704000 a_1^8 a_2^2 a_3^3 t^2 c_3 + 68024448000 a_1^6 a_2^4 a_3^3 t^2 c_3 - 114791256000 a_1^6 a_2 a_3^6 t^2 c_2 +$
 $453496320000 a_1^4 a_2^6 a_3^3 t^2 c_3 + 3443737680000 a_1^4 a_2 a_3^8 t^2 c_2 - 5441955840000 a_1^2 a_2^8 a_3^3 t^2 c_3 - 3673320192000 a_1^2 a_2^6 a_3^8 t^2 c_1 +$
 $16529940864000 a_1^2 a_2^4 a_3^8 t^2 c_1 - 3464208000 a_1^8 a_2^2 a_3^3 t c_3 + 41570496000 a_1^6 a_2^4 a_3^3 t c_3 - 70150212000 a_1^6 a_2 a_3^6 t c_2 +$
 $277136640000 a_1^4 a_2^6 a_3^3 t c_3 + 2104506360000 a_1^4 a_2 a_3^8 t c_2 - 3325639680000 a_1^2 a_2^8 a_3^3 t c_3 - 2244806784000 a_1^2 a_2^6 a_3^8 t c_1 +$
 $10101630528000 a_1^2 a_2^4 a_3^8 t c_1 + 85030560000 a_1^6 a_2^2 a_3^5 t^3 c_3 + 22958251200 a_1^5 a_2^2 a_3^6 t^3 c_1 - 2040733440000 a_1^4 a_2^2 a_3^5 t^3 c_3 -$
 $688747536000 a_1^3 a_2^2 a_3^8 t^3 c_1 + 12244400640000 a_1^2 a_2^6 a_3^5 t^3 c_3 + 4591650240000 a_1^2 a_2^5 a_3^6 t^3 c_2 - 20662426080000 a_1^2 a_2^3 a_3^8 t^3 c_2 +$
 $170061120000 a_1^6 a_2^2 a_3^5 t^2 c_3 + 45916502400 a_1^5 a_2^2 a_3^6 t^2 c_1 - 4081466880000 a_1^4 a_2^4 a_3^5 t^2 c_3 - 1377495072000 a_1^3 a_2^2 a_3^8 t^2 c_1 +$
 $24488801280000 a_1^2 a_2^6 a_3^5 t^2 c_3 + 9183300480000 a_1^2 a_2^5 a_3^6 t^2 c_2 - 41324852160000 a_1^2 a_2^3 a_3^8 t^2 c_2 + 103926240000 a_1^6 a_2^2 a_3^5 t c_3 +$
 $28060084800 a_1^5 a_2^2 a_3^6 t c_1 - 2494229760000 a_1^4 a_2^4 a_3^5 t c_3 - 841802544000 a_1^3 a_2^2 a_3^8 t c_1 + 14965378560000 a_1^2 a_2^6 a_3^5 t c_3 +$
 $5612016960000 a_1^2 a_2^5 a_3^6 t c_2 - 25254076320000 a_1^2 a_2^3 a_3^8 t c_2 - 629856000 a_1^8 a_2^2 a_3^3 c_3 + 7558272000 a_1^6 a_2^4 a_3^3 c_3 -$
 $12754584000 a_1^6 a_2 a_3^6 c_2 + 50388480000 a_1^4 a_2^6 a_3^3 c_3 + 382637520000 a_1^4 a_2 a_3^8 c_2 - 604661760000 a_1^2 a_2^3 a_3^8 c_3 -$
 $408146688000 a_1^2 a_2^6 a_3^6 c_1 + 1836660096000 a_1^2 a_2^4 a_3^8 c_1 + 18895680000 a_1^6 a_2^2 a_3^5 c_3 + 5101833600 a_1^5 a_2^2 a_3^6 c_1 -$
 $453496320000 a_1^4 a_2^4 a_3^5 c_3 - 153055008000 a_1^3 a_2^2 a_3^8 c_1 + 2720977920000 a_1^2 a_2^6 a_3^5 c_3 + 1020366720000 a_1^2 a_2^5 a_3^6 c_2 -$
 $4591650240000 a_1^2 a_2^3 a_3^8 c_2) x^2 + (-1417176000 a_1^8 a_2^2 a_3^3 t^4 d_3 + 17006112000 a_1^6 a_2^4 a_3^3 t^4 d_3 - 28697814000 a_1^6 a_2 a_3^6 t^4 d_2 +$
 $113374080000 a_1^4 a_2^6 a_3^3 t^4 d_3 - 3464208000 a_1^8 a_2^2 a_3^3 t^4 d_3 + 41570496000 a_1^6 a_2^4 a_3^3 t^4 d_3 - 70150212000 a_1^6 a_2 a_3^6 t^4 d_2 +$
 $277136640000 a_1^4 a_2^6 a_3^3 t^4 d_3 + 2104506360000 a_1^4 a_2 a_3^8 t^4 d_2 - 3325639680000 a_1^2 a_2^8 a_3^3 t^4 d_3 - 2244806784000 a_1^2 a_2^6 a_3^8 t^4 d_2 +$
 $10101630528000 a_1^2 a_2^4 a_3^8 t^4 d_1 - 1259712000 a_1^8 a_2^2 a_3^3 t d_3 + 15116544000 a_1^6 a_2^4 a_3^3 t d_3 - 25509168000 a_1^6 a_2 a_3^6 t d_2 +$
 $100776960000 a_1^4 a_2^6 a_3^3 t d_3 + 765275040000 a_1^4 a_2 a_3^8 t d_2 - 1209323520000 a_1^2 a_2^8 a_3^3 t d_3 - 816293376000 a_1^2 a_2^6 a_3^8 t d_1 +$
 $3673320192000 a_1^2 a_2^4 a_3^8 t d_1 + 860934420000 a_1^4 a_2 a_3^8 t^4 d_2 - 1360488960000 a_1^2 a_2^8 a_3^3 t^4 d_3 - 918330048000 a_1^2 a_2^6 a_3^8 t^4 d_1 +$
 $4132485216000 a_1^2 a_2^5 a_3^6 t^4 d_1 - 3779136000 a_1^8 a_2^2 a_3^3 t^3 d_3 + 45349632000 a_1^6 a_2^4 a_3^3 t^3 d_3 - 76527504000 a_1^6 a_2 a_3^6 t^3 d_2 +$
 $30233880000 a_1^4 a_2^6 a_3^3 t^3 d_3 + 2295825120000 a_1^4 a_2 a_3^8 t^3 d_2 - 3627970560000 a_1^2 a_2^8 a_3^3 t^3 d_3 - 2448880128000 a_1^2 a_2^6 a_3^8 t^3 d_1 +$
 $10119960576000 a_1^2 a_2^4 a_3^8 t^3 d_1 - 918330048000 a_1^3 a_2^2 a_3^5 t^3 d_1 + 16325867520000 a_1^2 a_2^6 a_3^5 t^3 d_3 + 6122200320000 a_1^2 a_2^5 a_3^6 t^3 d_2 -$
 $27549901440000 a_1^2 a_2^3 a_3^8 t^3 d_2 + 42515280000 a_1^6 a_2^2 a_3^5 t^4 d_3 + 11479125600 a_1^5 a_2^2 a_3^6 t^4 d_1 - 1020366720000 a_1^4 a_2^2 a_3^5 t^4 d_3 -$
 $3443737680000 a_1^3 a_2^2 a_3^8 t^4 d_1 + 6122200320000 a_1^2 a_2^6 a_3^5 t^4 d_3 + 2295825120000 a_1^2 a_2^5 a_3^6 t^4 d_2 - 10331213040000 a_1^2 a_2^3 a_3^8 t^4 d_2 -$
 $906992640000 a_1^2 a_2^4 a_3^5 t d_3 - 306110016000 a_1^3 a_2^2 a_3^8 t d_2 + 5441955840000 a_1^2 a_2^6 a_3^5 t d_3 + 2040733440000 a_1^2 a_2^5 a_3^6 t d_2 -$
 $9183300480000 a_1^2 a_2^3 a_3^8 t d_2 + 103926240000 a_1^6 a_2^2 a_3^5 t^2 d_3 + 28060084800 a_1^5 a_2^2 a_3^6 t^2 d_1 - 2494229760000 a_1^4 a_2^4 a_3^5 t^2 d_3 -$
 $841802544000 a_1^3 a_2^2 a_3^8 t^2 d_1 + 14965378560000 a_1^2 a_2^6 a_3^5 t^2 d_3 + 56112016960000 a_1^2 a_2^5 a_3^6 t^2 d_2 - 25254076320000 a_1^2 a_2^3 a_3^8 t^2 d_2 +$
 $37791360000 a_1^6 a_2^2 a_3^5 t d_3 + 10203667200 a_1^5 a_2^2 a_3^6 t d_1 + 113374080000 a_1^6 a_2^2 a_3^5 t^3 d_3 + 306110016000 a_1^5 a_2^2 a_3^6 t^3 d_1 -$
 $2720977920000 a_1^4 a_2^4 a_3^5 t^3 d_3 - 15496819560 a_1^{10} a_2^2 a_3^6 t^8 + 929809173600 a_1^8 a_2^2 a_3^8 t^8 + 2479491129600 a_1^6 a_2^6 a_3^6 t^8 -$
 $11157710083200 a_1^6 a_2^4 a_3^8 t^8 - 13947137604000 a_1^6 a_2^2 a_3^{10} t^8 - 74384733888000 a_1^4 a_2^6 a_3^8 t^8 + 334731302496000 a_1^4 a_2^4 a_3^{10} t^8 -$
 $99179645184000 a_1^2 a_1^2 a_3^6 t^8 + 892616806656000 a_1^2 a_2^8 a_3^8 t^8 - 2008387814976000 a_1^2 a_2^6 a_3^{10} t^8 - 37881114480 a_1^{10} a_2^2 a_3^6 t^7 +$
 $2272866868800 a_1^8 a_2^2 a_3^8 t^7 + 6060978316800 a_1^6 a_2^6 a_3^6 t^7 - 27274402425600 a_1^6 a_2^4 a_3^8 t^7 - 34093003032000 a_1^6 a_2^2 a_3^{10} t^7 -$
 $181829349504000 a_1^4 a_2^6 a_3^8 t^7 + 818232072768000 a_1^4 a_2^4 a_3^{10} t^7 - 242439132672000 a_1^2 a_2^{10} a_3^6 t^7 + 2181952194048000 a_1^2 a_2^8 a_3^8 t^7 -$
 $4909392436608000 a_1^2 a_2^6 a_3^{10} t^7 - 48212327520 a_1^{10} a_2^2 a_3^6 t^6 + 2892739651200 a_1^8 a_2^2 a_3^8 t^6 + 7713972403200 a_1^8 a_2^2 a_3^6 t^6 -$
 $34712875814400 a_1^6 a_2^4 a_3^8 t^6 - 43391094768000 a_1^6 a_2^2 a_3^{10} t^6 - 231419172096000 a_1^4 a_2^6 a_3^8 t^6 + 1041386274432000 a_1^4 a_2^4 a_3^{10} t^6 +$
 $308558896128000 a_1^2 a_2^{10} a_3^6 t^6 + 2777030065152000 a_1^2 a_2^8 a_3^8 t^6 - 6248317646592000 a_1^2 a_2^6 a_3^{10} t^6 - 210928932900 a_1^{10} a_2^2 a_3^6 t^5 +$
 $12655735974000 a_1^8 a_2^2 a_3^8 t^5 + 33748629264000 a_1^6 a_2^6 a_3^6 t^5 - 151868831688000 a_1^6 a_2^4 a_3^8 t^5 - 189836039610000 a_1^6 a_2^2 a_3^{10} t^5 -$
 $1012458877920000 a_1^4 a_2^6 a_3^8 t^5 + 4556064950640000 a_1^4 a_2^4 a_3^{10} t^5 - 1349945170560000 a_1^2 a_2^{10} a_3^6 t^5 + 1214950635040000 a_1^2 a_2^8 a_3^8 t^5 -$
 $27336389703840000 a_1^2 a_2^6 a_3^{10} t^5 - 3443737680000 a_1^{10} a_2^2 a_3^6 t^4 + 20662426080000 a_1^8 a_2^2 a_3^8 t^4 + 55099802880000 a_1^6 a_2^6 a_3^6 t^4 -$
 $247949112960000 a_1^6 a_2^4 a_3^8 t^4 - 309936391200000 a_1^6 a_2^2 a_3^{10} t^4 - 1652994086400000 a_1^4 a_2^6 a_3^8 t^4 + 7438473388800000 a_1^4 a_2^4 a_3^{10} t^4 -$
 $2203992115200000 a_1^2 a_2^{10} a_3^6 t^4 + 19835929036800000 a_1^2 a_2^8 a_3^8 t^4 - 44630840332800000 a_1^2 a_2^6 a_3^{10} t^4 - 223842949200 a_1^{10} a_2^2 a_3^6 t^3 +$
 $13430576952000 a_1^8 a_2^2 a_3^8 t^3 + 35814871872000 a_1^6 a_2^6 a_3^6 t^3 - 161166923424000 a_1^6 a_2^4 a_3^8 t^3 - 201458654280000 a_1^6 a_2^2 a_3^{10} t^3 -$
 $1074446156160000 a_1^4 a_2^6 a_3^8 t^3 + 4835007702720000 a_1^4 a_2^4 a_3^{10} t^3 - 1432594874880000 a_1^2 a_2^{10} a_3^6 t^3 + 12893353873920000 a_1^2 a_2^8 a_3^8 t^3 -$
 $29010046216320000 a_1^2 a_2^6 a_3^{10} t^3 - 2582803260 a_1^{10} a_2^2 a_3^6 t^2 + 154968195600 a_1^8 a_2^2 a_3^8 t^2 + 413248521600 a_1^6 a_2^6 a_3^6 t^2 -$
 $1859618347200 a_1^6 a_2^4 a_3^8 t^2 - 2324522934000 a_1^6 a_2^2 a_3^{10} t^2 - 12397455648000 a_1^4 a_2^6 a_3^8 t^2 + 55788550416000 a_1^4 a_2^4 a_3^{10} t^2 -$
 $16529940864000 a_1^2 a_2^{10} a_3^6 t^2 + 148769467776000 a_1^2 a_2^8 a_3^8 t^2 - 334731302496000 a_1^2 a_2^6 a_3^{10} t^2 + 1417176000 a_1^8 a_2^2 a_3^3 t^4 c_3 -$
 $17006112000 a_1^6 a_2^4 a_3^3 t^4 c_3 + 28697814000 a_1^6 a_2 a_3^6 t^4 c_2 - 113374080000 a_1^4 a_2^6 a_3^3 t^4 c_3 - 860934420000 a_1^4 a_2 a_3^8 t^4 c_2 +$
 $1360488960000 a_1^2 a_2^8 a_3^3 t^4 c_3 + 9183300480000 a_1^2 a_2^6 a_3^8 t^4 c_1 - 4132485216000 a_1^2 a_2^5 a_3^6 t^4 c_3 - 3779136000 a_1^8 a_2^2 a_3^3 t^3 c_3 -$
 $45349632000 a_1^6 a_2^4 a_3^3 t^3 c_3 + 765275040000 a_1^6 a_2 a_3^6 t^3 c_2 - 302330880000 a_1^4 a_2^6 a_3^3 t^3 c_3 - 2295825120000 a_1^4 a_2 a_3^8 t^3 c_2 +$
 $3627970560000 a_1^2 a_2^8 a_3^3 t^3 c_3 + 2448880128000 a_1^2 a_2^6 a_3^8 t^3 c_1 + 11019960576000 a_1^2 a_2^4 a_3^8 t^3 c_1 + 3464208000 a_1^8 a_2^2 a_3^3 t^2 c_3 -$
 $41570496000 a_1^6 a_2^4 a_3^3 t^2 c_3 + 70150212000 a_1^6 a_2 a_3^6 t^2 c_2 - 277136640000 a_1^4 a_2^6 a_3^3 t^2 c_3 - 2104506360000 a_1^4 a_2 a_3^8 t^2 c_2 +$
 $3325639680000 a_1^2 a_2^8 a_3^3 t^2 c_3 + 2244806784000 a_1^2 a_2^6 a_3^8 t^2 c_1 - 10101630528000 a_1^2 a_2^4 a_3^8 t^2 c_1 + 1259712000 a_1^8 a_2^2 a_3^3 t c_3 -$
 $15116544000 a_1^6 a_2^4 a_3^3 t c_3 + 25509168000 a_1^6 a_2 a_3^6 t c_2 - 100776960000 a_1^4 a_2^6 a_3^3 t c_3 - 765275040000 a_1^4 a_2 a_3^8 t c_2 +$
 $1209323520000 a_1^2 a_2^8 a_3^3 t c_3 + 8162933760000 a_1^2 a_2^6 a_3^8 t c_1 - 36733201920000 a_1^2 a_2^4 a_3^8 t c_1 - 42515280000 a_1^6 a_2^2 a_3^5 t^4 c_3 -$
 $11479125600 a_1^5 a_2^2 a_3^6 t^4 c_1 + 1020366720000 a_1^4 a_2^4 a_3^5 t^4 c_3 + 344373768000 a_1^3 a_2^2 a_3^8 t^4 c_1 - 6122200320000 a_1^2 a_2^6 a_3^5 t^4 c_3 -$
 $2295825120000 a_1^2 a_2^5 a_3^6 t^4 c_2 + 10331213040000 a_1^2 a_2^3 a_3^8 t^4 c_2 - 113374080000 a_1^6 a_2^2 a_3^5 t^3 c_3 - 30611001600 a_1^5 a_2^2 a_3^6 t^3 c_1 +$
 $2720977920000 a_1^4 a_2^4 a_3^5 t^3 c_3 + 918330048000 a_1^3 a_2^2 a_3^5 t^3 c_1 - 16325867520000 a_1^2 a_2^6 a_3^5 t^3 c_3 - 6122200320000 a_1^2 a_2^5 a_3^6 t^3 c_2 +$
 $27549901440000 a_1^2 a_2^3 a_3^8 t^3 c_2 - 103926240000 a_1^6 a_2^2 a_3^5 t^2 c_2 - 28060084800 a_1^5 a_2^2 a_3^6 t^2 c_1 + 2494229760000 a_1^4 a_2^4 a_3^5 t^2 c_3 +$
 $841802544000 a_1^3 a_2^2 a_3^8 t^2 c_1 - 14965378560000 a_1^2 a_2^6 a_3^5 t^2 c_3 - 56112016960000 a_1^2 a_2^5 a_3^6 t^2 c_2 + 25254076320000 a_1^2 a_2^3 a_3^8 t^2 c_2 -$
 $37791360000 a_1^6 a_2^2 a_3^5 t c_3 - 10203667200 a_1^5 a_2^2 a_3^6 t c_1 + 906992640000 a_1^4 a_2^4 a_3^5 t c_3 + 306110016000 a_1^3 a_2^2 a_3^8 t c_1 -$
 $5441955840000 a_1^2 a_2^6 a_3^5 t c_3 - 2040733440000 a_1^2 a_2^5 a_3^6 t c_2 + 9183300480000 a_1^2 a_2^3 a_3^8 t c_2) x + 829440000 a_1^2 a_2^6 a_3^2 +$
 $2361960000 a_1^2 a_3^6 c_2 + 377913600 a_2^2 a_3^6 c_1 + 5760000 a_1^6 a_2^2 c_3 - 138240000 a_1^4 a_2^4 c_3 + 233280000 a_1^4 a_2^3 c_3 d_2 d_3 -$
 $933120000 a_1^3 a_2^2 a_3^3 d_1 d_3 - 2799360000 a_1^2 a_2^3 a_3^3 d_3 d_2 + 1119744000 a_1^2 a_2^3 a_3^3 d_1 d_3 - 1889568000 a_1^2 a_2 a_3^3 d_1 d_2 +$
 $944784000 a_1^8 a_2^2 a_3^3 t^4 d_3 - 11337408000 a_1^6 a_2^4 a_3^3 t^4 d_3 + 19131876000 a_1^6 a_2 a_3^6 t^4 d_2 - 75582720000 a_1^4 a_2^6 a_3^3 t^4 d_3 +$
 $629856000 a_1^8 a_2^2 a_3^3 t^2 d_3 - 7558272000 a_1^6 a_2^4 a_3^3 t^2 d_3 + 12754584000 a_1^6 a_2 a_3^6 t^2 d_2 - 50388480000 a_1^4 a_2^6 a_3^3 t^2 d_3 -$
 $382637520000 a_1^4 a_2 a_3^8 t^2 d_2 + 604661760000 a_1^2 a_2^8 a_3^3 t^2 d_3 + 408146688000 a_1^2 a_2^6 a_3^8 t^2 d_1 - 1836660096000 a_1^2 a_2^4 a_3^8 t^2 d_1 +$

$$\begin{aligned}
& 419904000 a_1^8 a_2^2 a_3^3 t d_3 - 5038848000 a_1^6 a_2^4 a_3^3 t d_3 + 8503056000 a_1^6 a_2 a_3^6 t d_2 - 33592320000 a_1^4 a_2^6 a_3^3 t d_3 - \\
& 255091680000 a_1^4 a_2 a_3^8 t d_2 + 403107840000 a_1^2 a_2^8 a_3^3 t d_3 + 272097792000 a_1 a_2^6 a_3^6 t d_1 + 283435200 a_1^8 a_2^2 a_3^3 t^5 d_3 - \\
& 34012224000 a_1^6 a_2^4 a_3^3 t^5 d_3 + 5739562800 a_1^6 a_2 a_3^6 t^5 d_2 - 22674816000 a_1^4 a_2^6 a_3^3 t^5 d_3 - 172186884000 a_1^4 a_2 a_3^8 t^5 d_2 + \\
& 272097792000 a_1^2 a_2^8 a_3^3 t^5 d_3 + 183666009600 a_1 a_2^6 a_3^6 t^5 d_1 - 826497043200 a_1 a_2^4 a_3^8 t^5 d_1 - 1224440064000 a_1 a_2^4 a_3^8 t d_1 - \\
& 573956280000 a_1^4 a_2 a_3^8 t^4 d_2 + 906992640000 a_1^2 a_2^8 a_3^3 t^4 d_3 + 612220032000 a_1 a_2^6 a_3^6 t^4 d_1 - 2754990144000 a_1 a_2^4 a_3^8 t^4 d_1 + \\
& 1154736000 a_1^8 a_2^2 a_3^3 t^3 d_3 - 13856832000 a_1^6 a_2^4 a_3^3 t^3 d_3 + 23383404000 a_1^6 a_2 a_3^6 t^3 d_2 - 92378880000 a_1^4 a_2^6 a_3^3 t^3 d_3 - \\
& 701502120000 a_1^4 a_2 a_3^8 t^3 d_2 + 1108546560000 a_1^2 a_2^8 a_3^3 t^3 d_3 + 748268928000 a_1 a_2^6 a_3^6 t^3 d_1 - 3367210176000 a_1 a_2^4 a_3^8 t^3 d_1 - \\
& 8503056000 a_1^6 a_2^2 a_3^5 t^3 d_3 - 2295825120 a_1^5 a_2^2 a_3^6 t^3 d_1 + 204073344000 a_1^4 a_2^4 a_3^5 t^3 d_3 + 68874753600 a_1^3 a_2^2 a_3^8 t^3 d_1 - \\
& 1224440064000 a_1^2 a_2^6 a_3^5 t^3 d_3 - 459165024000 a_1^2 a_2^5 a_3^6 t^3 d_2 + 2066242608000 a_1^2 a_2^3 a_3^8 t^3 d_2 + 280600848000 a_1^3 a_2^2 a_3^8 t^3 d_1 - \\
& 4988459520000 a_1^2 a_2^6 a_3^5 t^3 d_3 - 1870672320000 a_1^2 a_2^5 a_3^6 t^3 d_2 + 8418025440000 a_1^2 a_2^3 a_3^8 t^3 d_2 - 28343520000 a_1^6 a_2^2 a_3^5 t^4 d_3 - \\
& 7652750400 a_1^5 a_2^2 a_3^6 t^4 d_1 + 680244480000 a_1^4 a_2^4 a_3^5 t^4 d_3 + 229582512000 a_1^3 a_2^2 a_3^8 t^4 d_1 - 408146688000 a_1^2 a_2^6 a_3^5 t^4 d_3 - \\
& 153055008000 a_1^2 a_2^5 a_3^6 t^4 d_2 + 688747536000 a_1^2 a_2^3 a_3^8 t^4 d_2 + 30233088000 a_1^4 a_2^4 a_3^5 t^4 d_3 + 102036672000 a_1^3 a_2^2 a_3^8 t d_1 - \\
& 1813985280000 a_1^2 a_2^6 a_3^5 t d_3 - 680244480000 a_1^2 a_2^5 a_3^6 t d_2 + 3061100160000 a_1^2 a_2^3 a_3^8 t d_2 - 18895680000 a_1^6 a_2^2 a_3^5 t^4 d_3 - \\
& 5101833600 a_1^5 a_2^2 a_3^6 t^2 d_1 + 453496320000 a_1^4 a_2^4 a_3^5 t^2 d_3 + 153055008000 a_1^3 a_2^2 a_3^8 t^2 d_1 - 2720977920000 a_1^2 a_2^6 a_3^5 t^2 d_3 - \\
& 102066720000 a_1^2 a_2^5 a_3^6 t^2 d_2 + 4591650240000 a_1^2 a_2^3 a_3^8 t^2 d_2 - 12597120000 a_1^6 a_2^2 a_3^5 t^3 d_3 - 34012224000 a_1^5 a_2^2 a_3^6 t d_1 - \\
& 34642080000 a_1^6 a_2^2 a_3^5 t^3 d_3 - 9353361600 a_1^5 a_2^2 a_3^6 t^3 d_1 + 831409920000 a_1^4 a_2^4 a_3^5 t^3 d_3 + 4735139310 a_1^10 a_2^2 a_3^6 t^8 - \\
& 2841083586000 a_1^8 a_2^2 a_3^8 t^8 - 757622289600 a_1^6 a_2^6 a_3^6 t^8 + 3409300303200 a_1^6 a_2^4 a_3^8 t^8 + 4261625379000 a_1^6 a_2^2 a_3^8 t^8 + \\
& 22728668688000 a_1^4 a_2^6 a_3^8 t^8 - 102279009096000 a_1^4 a_2^4 a_3^10 t^8 + 30304891584000 a_1^2 a_2^10 a_3^6 t^8 - 272744024256000 a_1^2 a_2^8 a_3^8 t^8 + \\
& 613674054576000 a_1^2 a_2^6 a_3^10 t^8 + 6887475360 a_1^10 a_2^2 a_3^6 t^7 - 413248521600 a_1^8 a_2^2 a_3^8 t^7 - 1101996057600 a_1^6 a_2^6 a_3^6 t^7 + \\
& 4958982259200 a_1^6 a_2^4 a_3^8 t^7 + 6198727824000 a_1^6 a_2^2 a_3^10 t^7 + 33059881728000 a_1^4 a_2^6 a_3^8 t^7 - 148769467776000 a_1^4 a_2^4 a_3^10 t^7 + \\
& 44079842304000 a_1^2 a_2^10 a_3^6 t^7 - 396718580736000 a_1^2 a_2^8 a_3^8 t^7 + 892616806656000 a_1^2 a_2^6 a_3^10 t^7 + 490732619400 a_1^10 a_2^2 a_3^6 t^6 - \\
& 2944395716400 a_1^8 a_2^2 a_3^8 t^6 - 7851721910400 a_1^6 a_2^6 a_3^6 t^6 + 35332748596800 a_1^6 a_2^4 a_3^8 t^6 + 44165935746000 a_1^6 a_2^2 a_3^10 t^6 + \\
& 235551657312000 a_1^4 a_2^6 a_3^8 t^6 - 1059982457904000 a_1^4 a_2^4 a_3^10 t^6 + 314068876416000 a_1^2 a_2^10 a_3^6 t^6 - 2826619887744000 a_1^2 a_2^8 a_3^8 t^6 + \\
& 6359894747424000 a_1^2 a_2^6 a_3^10 t^6 + 1119214746000 a_1^10 a_2^2 a_3^6 t^5 - 6715288476000 a_1^8 a_2^2 a_3^8 t^5 - 17907435936000 a_1^6 a_2^6 a_3^6 t^5 + \\
& 80583461712000 a_1^6 a_2^4 a_3^8 t^5 + 100729327140000 a_1^6 a_2^2 a_3^10 t^5 + 537223078080000 a_1^4 a_2^6 a_3^8 t^5 - 2417503851360000 a_1^4 a_2^4 a_3^10 t^5 + \\
& 716297437432000 a_1^2 a_2^10 a_3^6 t^5 - 6446676936960000 a_1^2 a_2^8 a_3^8 t^5 + 14505023108160000 a_1^2 a_2^6 a_3^10 t^5 + 137749507200 a_1^10 a_2^2 a_3^6 t^4 - \\
& 82649704320000 a_1^8 a_2^2 a_3^8 t^4 - 220399211520000 a_1^6 a_2^6 a_3^10 t^4 + 99179645184000 a_1^6 a_2^4 a_3^8 t^4 + 123974556480000 a_1^6 a_2^2 a_3^10 t^4 + \\
& 661197634560000 a_1^4 a_2^6 a_3^8 t^4 - 2975389355520000 a_1^4 a_2^4 a_3^10 t^4 + 8811596846080000 a_1^2 a_2^10 a_3^6 t^4 - 7934371614720000 a_1^2 a_2^8 a_3^8 t^4 + \\
& 17852336133120000 a_1^2 a_2^6 a_3^10 t^4 + 34437376800 a_1^10 a_2^2 a_3^6 t^3 - 2066242608000 a_1^8 a_2^2 a_3^8 t^3 - 5509980288000 a_1^6 a_2^6 a_3^6 t^3 + \\
& 24794911296000 a_1^6 a_2^4 a_3^8 t^3 + 30993639120000 a_1^6 a_2^2 a_3^10 t^3 + 165299408640000 a_1^4 a_2^6 a_3^8 t^3 - 743847338880000 a_1^4 a_2^4 a_3^10 t^3 + \\
& 220399211520000 a_1^2 a_2^10 a_3^6 t^3 - 1983592903680000 a_1^2 a_2^8 a_3^8 t^3 + 4463084033280000 a_1^2 a_2^6 a_3^10 t^3 + 258280326 a_1^10 a_2^2 a_3^6 t^2 - \\
& 15496819560 a_1^8 a_2^2 a_3^8 t^2 - 41324852160 a_1^6 a_2^6 a_3^10 t^2 + 185961834720 a_1^6 a_2^4 a_3^8 t^2 + 232452293400 a_1^6 a_2^2 a_3^10 t^2 + \\
& 1239745564800 a_1^4 a_2^6 a_3^8 t^2 - 5578855041600 a_1^4 a_2^4 a_3^10 t^2 + 1652994086400 a_1^2 a_2^10 a_3^6 t^2 - 14876946777600 a_1^2 a_2^8 a_3^8 t^2 + \\
& 33473130249600 a_1^2 a_2^6 a_3^10 t^2 + 1721868840 a_1^10 a_2^2 a_3^6 t^1 - 103312130400 a_1^8 a_2^2 a_3^8 t^1 - 275499014400 a_1^6 a_2^6 a_3^6 t^1 + \\
& 1239745564800 a_1^6 a_2^4 a_3^8 t^1 + 1549681956000 a_1^6 a_2^2 a_3^10 t^1 + 8264970432000 a_1^4 a_2^6 a_3^8 t^1 - 37192366944000 a_1^4 a_2^4 a_3^10 t^1 + \\
& 11019960576000 a_1^2 a_2^10 a_3^6 t^1 - 99179645184000 a_1^2 a_2^8 a_3^8 t^1 + 223154201664000 a_1^2 a_2^6 a_3^10 t^1 + 5760000 a_1^6 a_2^2 a_3^2 d_2 - \\
& 138240000 a_1^4 a_2^4 d_3^2 + 829440000 a_1^2 a_2^6 d_3^2 + 2361960000 a_1^2 a_3^6 d_2^2 + 377913600 a_2^2 a_3^6 d_1^2 - 11520000 a_1^6 a_2^2 a_3^2 d_3 + \\
& 276480000 a_1^4 a_2^4 c_3 d_3 - 1658880000 a_1^2 a_2^6 c_3 d_3 - 4723920000 a_1^2 a_3^6 c_2 d_2 - 75827200 a_2^2 a_3^6 c_1 d_1 - 283435200 a_1^2 a_2^6 a_3^3 t^5 c_3 + \\
& 34012224000 a_1^6 a_2^4 a_3^3 t^5 c_3 - 5739562800 a_1^6 a_2 a_3^6 t^5 c_2 + 22674816000 a_1^4 a_2^6 a_3^3 t^5 c_3 + 172186884000 a_1^4 a_2 a_3^8 t^5 c_2 - \\
& 272097792000 a_1^2 a_2^8 a_3^3 t^5 c_3 - 183666009600 a_1 a_2^6 a_3^6 t^5 c_1 + 826497043200 a_1 a_2^4 a_3^8 t^5 c_1 - 944784000 a_1^8 a_2^2 a_3^3 t^4 c_3 + \\
& 11337408000 a_1^6 a_2^4 a_3^3 t^4 c_3 - 19131876000 a_1^6 a_2 a_3^6 t^4 c_2 + 75582720000 a_1^4 a_2^6 a_3^3 t^4 c_3 + 573956280000 a_1^4 a_2 a_3^8 t^4 c_2 - \\
& 906992640000 a_1^2 a_2^8 a_3^3 t^4 c_3 - 612220032000 a_1 a_2^6 a_3^6 t^4 c_1 + 2754990144000 a_1 a_2^4 a_3^8 t^4 c_1 - 1154736000 a_1^8 a_2^2 a_3^3 t^3 c_3 + \\
& 1385683200 a_1^6 a_2^4 a_3^3 t^3 c_3 - 23383404000 a_1^6 a_2 a_3^6 t^3 c_2 + 92378880000 a_1^4 a_2^6 a_3^3 t^3 c_3 + 701502120000 a_1^4 a_2 a_3^8 t^3 c_2 - \\
& 1108546560000 a_1^2 a_2^8 a_3^3 t^3 c_3 - 748268928000 a_1 a_2^6 a_3^6 t^3 c_1 + 3367210176000 a_1 a_2^4 a_3^8 t^3 c_1 - 629856000 a_1^8 a_2^2 a_3^3 t^2 c_3 + \\
& 7558272000 a_1^6 a_2^4 a_3^3 t^2 c_3 - 12754584000 a_1^6 a_2 a_3^6 t^2 c_2 + 50388480000 a_1^4 a_2^6 a_3^3 t^2 c_3 + 382637520000 a_1^4 a_2 a_3^8 t^2 c_2 - \\
& 604661760000 a_1^2 a_2^8 a_3^3 t^2 c_3 - 408146688000 a_1 a_2^6 a_3^6 t^2 c_2 + 1836660096000 a_1 a_2^4 a_3^8 t^2 c_1 - 419904000 a_1^8 a_2^2 a_3^3 t c_3 + \\
& 5038848000 a_1^6 a_2^4 a_3^3 t c_3 - 8503056000 a_1^6 a_2 a_3^6 t c_2 + 33592320000 a_1^4 a_2^6 a_3^3 t c_3 + 255091680000 a_1^4 a_2 a_3^8 t c_2 - \\
& 403107840000 a_1^2 a_2^8 a_3^3 t c_3 - 272097792000 a_1 a_2^6 a_3^6 t c_1 + 1224440064000 a_1 a_2^4 a_3^8 t c_1 + 8503056000 a_1^6 a_2^2 a_3^5 t^5 c_3 + \\
& 2295825120 a_1^5 a_2^2 a_3^6 t^5 c_1 - 204073344000 a_1^4 a_2^4 a_3^5 t^5 c_3 - 68874753600 a_1^3 a_2^2 a_3^8 t^5 c_1 + 1224440064000 a_1^2 a_2^6 a_3^5 t^5 c_3 + \\
& 459165024000 a_1^2 a_2^5 a_3^6 t^5 c_2 - 2066242608000 a_1^2 a_2^3 a_3^8 t^5 c_2 + 28343520000 a_1^6 a_2^2 a_3^5 t^4 c_3 + 7652750400 a_1^5 a_2^2 a_3^6 t^4 c_1 - \\
& 680244480000 a_1^4 a_2^4 a_3^5 t^4 c_3 - 229582512000 a_1^3 a_2^2 a_3^8 t^4 c_1 + 4081466880000 a_1^2 a_2^6 a_3^5 t^4 c_3 + 1530550080000 a_1^2 a_2^5 a_3^6 t^4 c_2 - \\
& 6887475360000 a_1^2 a_2^3 a_3^8 t^4 c_2 + 34642080000 a_1^6 a_2^2 a_3^5 t^3 c_3 + 9353361600 a_1^5 a_2^2 a_3^6 t^3 c_1 - 831409920000 a_1^4 a_2^4 a_3^5 t^3 c_3 - \\
& 280600848000 a_1^3 a_2^2 a_3^8 t^3 c_1 + 4988459520000 a_1^2 a_2^6 a_3^5 t^3 c_3 + 1870672320000 a_1^2 a_2^5 a_3^6 t^3 c_2 - 8418025440000 a_1^2 a_2^3 a_3^8 t^3 c_2 + \\
& 1889568000 a_1^6 a_2^2 a_3^5 t^2 c_3 + 5101833600 a_1^5 a_2^2 a_3^6 t^2 c_1 - 453496320000 a_1^4 a_2^4 a_3^5 t^2 c_3 - 153055008000 a_1^3 a_2^2 a_3^8 t^2 c_1 + \\
& 2720977920000 a_1^2 a_2^6 a_3^5 t^2 c_3 + 1020366720000 a_1^2 a_2^5 a_3^6 t^2 c_2 - 4591650240000 a_1^2 a_2^3 a_3^8 t^2 c_2 + 12597120000 a_1^6 a_2^2 a_3^5 t^3 c_3 + \\
& 34012224000 a_1^5 a_2^2 a_3^6 t c_1 - 302330880000 a_1^4 a_2^4 a_3^5 t c_3 - 102036672000 a_1^3 a_2^2 a_3^8 t c_1 + 1813985280000 a_1^2 a_2^6 a_3^5 t c_3 + \\
& 680244480000 a_1^2 a_2^5 a_3^6 t c_2 - 3061100160000 a_1^2 a_2^3 a_3^8 t c_2 + 233280000 a_1^4 a_2 a_3^3 t c_3 - 233280000 a_1^4 a_2 a_3^3 t c_3 - \\
& 233280000 a_1^4 a_2 a_3^3 t c_3 d_2 - 93312000 a_1^3 a_2^2 a_3^3 t c_1 c_3 + 93312000 a_1^3 a_2^2 a_3^3 t c_1 d_3 + 93312000 a_1^3 a_2^2 a_3^3 t c_3 d_1 - \\
& 2799360000 a_1^2 a_2^3 a_3^3 t c_2 c_3 + 2799360000 a_1^2 a_2^3 a_3^3 t c_2 d_3 + 2799360000 a_1^2 a_2^3 a_3^3 t c_3 d_2 + 1119744000 a_1^2 a_2^4 a_3^3 t c_1 c_3 - \\
& 1119744000 a_1^2 a_2^4 a_3^3 t c_1 d_3 - 1119744000 a_1^2 a_2^4 a_3^3 t c_3 d_1 - 1889568000 a_1 a_2 a_3^6 t c_1 c_2 + 1889568000 a_1 a_2 a_3^6 t c_1 d_2 + \\
& 1889568000 a_1 a_2 a_3^6 t c_2 d_1 \\
d(x, t) = & (6561 a_1^5 a_2 a_3^3 - 196830 a_1^3 a_2 a_3^5 - 524880 a_1 a_2^5 a_3^3 + 2361960 a_1 a_2^3 a_3^5) x^6 + (-39366 t a_1^5 a_2 a_3^3 + \\
& 1180980 t a_1^3 a_2 a_3^5 + 3149280 t a_1 a_2^5 a_3^3 - 14171760 t a_1 a_2^3 a_3^5 - 26244 a_1^5 a_2 a_3^3 + 787320 a_1^3 a_2 a_3^5 + 2099520 a_1 a_2^5 a_3^3 - \\
& 9447840 a_1 a_2^3 a_3^5) x^5 + (98415 t^2 a_1^5 a_2 a_3^3 - 2952450 t^2 a_1^3 a_2 a_3^5 - 7873200 t^2 a_1 a_2^5 a_3^3 + 35429400 t^2 a_1 a_2^3 a_3^5 + \\
& 131220 t a_1^5 a_2 a_3^3 - 3936600 t a_1^3 a_2 a_3^5 - 10497600 t a_1 a_2^5 a_3^3 + 47239200 t a_1 a_2^3 a_3^5 + 32805 a_1^5 a_2 a_3^3 - 984150 a_1^3 a_2 a_3^5 - \\
& 2624400 a_1 a_2^5 a_3^3 + 11809800 a_1 a_2^3 a_3^5) x^4 + (-131220 t^3 a_1^5 a_2 a_3^3 + 3936600 t^3 a_1^3 a_2 a_3^5 + 10497600 t^3 a_1 a_2^5 a_3^3 - \\
& 47239200 t^3 a_1 a_2^3 a_3^5 - 262440 t^2 a_1^5 a_2 a_3^3 + 7873200 t^2 a_1^3 a_2 a_3^5 + 20995200 t^2 a_1 a_2^5 a_3^3 - 94478400 t^2 a_1 a_2^3 a_3^5 - \\
& 196830 t a_1^5 a_2 a_3^3 + 5904900 t a_1^3 a_2 a_3^5 + 15746400 t a_1 a_2^5 a_3^3 - 70858800 t a_1 a_2^3 a_3^5) x^3 + (98415 t^4 a_1^5 a_2 a_3^3 - \\
& 2952450 t^4 a_1^3 a_2 a_3^5 - 7873200 t^4 a_1 a_2^5 a_3^3 + 35429400 t^4 a_1 a_2^3 a_3^5 + 262440 t^3 a_1^5 a_2 a_3^3 - 7873200 t^3 a_1^3 a_2 a_3^5 - \\
& 20995200 t^3 a_1 a_2^5 a_3^3 + 94478400 t^3 a_1 a_2^3 a_3^5 + 393660 t^2 a_1^5 a_2 a_3^3 - 11809800 t^2 a_1^3 a_2 a_3^5 - 31492800 t^2 a_1 a_2^5 a_3^3 +
\end{aligned}$$

$$\begin{aligned}
& 141717600 t^2 a_1 a_2 a_3^5 + 131220 t a_1^5 a_2 a_3^3 - 3936600 t a_1^3 a_2 a_3^5 - 10497600 t a_1 a_2^5 a_3^3 + 47239200 t a_1 a_2^3 a_3^5 x^2 + \\
& (-39366 t^5 a_1^5 a_2 a_3^3 + 1180980 t^5 a_1^3 a_2 a_3^5 + 3149280 t^5 a_1 a_2^5 a_3^3 - 14171760 t^5 a_1 a_2^3 a_3^5 - 131220 t^4 a_1^5 a_2 a_3^3 + \\
& 3936600 t^4 a_1^3 a_2 a_3^5 + 10497600 t^4 a_1 a_2^5 a_3^3 - 47239200 t^4 a_1 a_2^3 a_3^5 - 328050 t^3 a_1^5 a_2 a_3^3 + 9841500 t^3 a_1^3 a_2 a_3^5 + \\
& 26244000 t^3 a_1 a_2^5 a_3^3 - 118098000 t^3 a_1 a_2^3 a_3^5 - 262440 t^2 a_1^5 a_2 a_3^3 + 7873200 t^2 a_1^3 a_2 a_3^5 + 20995200 t^2 a_1 a_2^5 a_3^3 - \\
& 94478400 t^2 a_1 a_2^3 a_3^5 - 2400 a_1^3 a_2 c_3 + 2400 a_1^3 a_2 d_3 + 28800 a_1 a_2^3 c_3 - 28800 a_1 a_2^3 d_3 - 48600 a_1 a_3^3 c_2 + \\
& 48600 a_1 a_3^3 d_2 + 19440 a_2 a_3^3 c_1 - 19440 a_2 a_3^3 d_1 - 524880 t^6 a_1 a_2^5 a_3^3 + 2361960 t^6 a_1 a_2^3 a_3^5 - 19200 a_1 a_2^3 c_3 + \\
& 19200 a_1 a_2^3 d_3 + 32400 a_1 a_3^3 c_2 - 32400 a_1 a_3^3 d_2 - 12960 a_2 a_3^3 c_1 + 12960 a_2 a_3^3 d_1 + 48600 t a_1 a_3^3 c_2 - 48600 t a_1 a_3^3 d_2 - \\
& 19440 t a_2 a_3^3 c_1 + 19440 t a_2 a_3^3 d_1 - 131220 t^2 a_1^5 a_2 a_3^3 + 3936600 t^2 a_1^3 a_2 a_3^5 + 131220 t^3 a_1^5 a_2 a_3^3 - 3936600 t^3 a_1^3 a_2 a_3^5 - \\
& 10497600 t^3 a_1 a_2^5 a_3^3 + 2400 t a_1^3 a_2 c_3 - 2400 t a_1^3 a_2 d_3 - 28800 t a_1 a_2^3 c_3 + 28800 t a_1 a_2^3 d_3 + 9447840 t^5 a_1 a_2^3 a_3^5 + \\
& 98415 t^4 a_1^5 a_2 a_3^3 - 2952450 t^4 a_1^3 a_2 a_3^5 - 7873200 t^4 a_1 a_2^5 a_3^3 + 35429400 t^4 a_1 a_2^3 a_3^5 + 1600 a_1^3 a_2 c_3 - 1600 a_1^3 a_2 d_3 + \\
& 10497600 t^2 a_1 a_2^5 a_3^3 - 47239200 t^2 a_1 a_2^3 a_3^5 + 47239200 t^3 a_1 a_2^3 a_3^5 + 26244 t^5 a_1^5 a_2 a_3^3 - 787320 t^5 a_1^3 a_2 a_3^5 - \\
& 2099520 t^5 a_1 a_2^5 a_3^3 + 6561 t^6 a_1^5 a_2 a_3^3 - 196830 t^6 a_1^3 a_2 a_3^5
\end{aligned}$$

Rational solution to the KP equation of order 3

The function v defined by

$$v(X, Y, T) = -2 \frac{n(X, Y, T)}{d(X, Y, T)^2}, \quad (17)$$

is a solution of order 4 to the KP equation with

$$\begin{aligned}
n(X, Y, T) = & (-3119921868853739520 a_1^6 a_2^4 a_3^8 - 3899902336067174400 a_1^6 a_2^2 a_3^{10} - 20799479125691596800 a_1^4 a_2^6 a_3^8 + \\
& 93597656065612185600 a_1^4 a_2^4 a_3^{10} - 4333224817852416 a_1^{10} a_2^2 a_3^6 - 27732638834255462400 a_1^2 a_2^{10} a_3^6 + 259993489071144960 a_1^8 a_2^2 a_3^8 + \\
& 249593749508299161600 a_1^2 a_2^8 a_3^8 + 693315970856386560 a_1^6 a_2^6 a_3^6 - 561585936393673113600 a_1^2 a_2^6 a_3^{10} X^{10} + \\
& (-138663194171277312000 i a_1^4 a_2^6 a_3^8 + 623984373770747904000 i a_1^4 a_2^4 a_3^{10} - 184884258895036416000 i a_1^2 a_2^{10} a_3^6 + \\
& 1663958330055327744000 i a_1^2 a_2^8 a_3^8 - 3743906242624487424000 i a_1^2 a_2^6 a_3^{10} - 28888165452349440 i a_1^{10} a_2^2 a_3^6 + \\
& 1733289927140966400 i a_1^8 a_2^2 a_3^8 + 4622106472375910400 i a_1^6 a_2^6 a_3^6 - 20799479125691596800 i a_1^6 a_2^4 a_3^8 - 25999348907114496000 i a_1^6 a_2^2 a_3^{10} - \\
& 155996093442686976000 a_1^4 a_2^6 a_3^8 T + 701982420492091392000 a_1^4 a_2^4 a_3^{10} T - 207994791256915968000 a_1^4 a_2^2 a_3^8 T + \\
& 1871953121312243712000 a_1^2 a_2^8 a_3^8 T - 29249267520503808000 a_1^6 a_2^2 a_3^{10} T - 32499186133893120 a_1^{10} a_2^2 a_3^6 T + \\
& 1949951168033587200 a_1^8 a_2^2 a_3^8 T + 5199869781422899200 a_1^6 a_2^6 a_3^6 T - 23399414016403046400 a_1^6 a_2^4 a_3^8 T - \\
& 2599934890711449600 a_1^8 a_2^2 a_3^8 Y - 6933159708563865600 a_1^6 a_2^6 a_3^6 Y + 31199218688537395200 a_1^6 a_2^4 a_3^8 Y + \\
& 38999023360671744000 a_1^6 a_2^2 a_3^{10} Y + 207994791256915968000 a_1^4 a_2^6 a_3^8 Y - 2495937495082991616000 a_1^2 a_2^8 a_3^8 Y + \\
& 561585936396731136000 a_1^2 a_2^6 a_3^{10} Y + 277326388342554624000 a_1^2 a_2^{10} a_3^6 Y - 935976560656121856000 a_1^4 a_2^4 a_3^8 Y - \\
& 4211894522952548352000 a_1^2 a_2^6 a_3^{10} T + 43332248178524160 a_1^{10} a_2^2 a_3^6 Y^9 + (79442454993960960 a_1^{10} a_2^2 a_3^6 - \\
& 4766547299637657600 a_1^8 a_2^2 a_3^8 - 12710792799033753600 a_1^6 a_2^6 a_3^6 + 57198567595651891200 a_1^6 a_2^4 a_3^8 + 7149820949564864000 a_1^6 a_2^2 a_3^{10} + \\
& 381323783971012608000 a_1^4 a_2^6 a_3^8 - 171595702786956736000 a_1^4 a_2^4 a_3^{10} + 508431711961350144000 a_1^2 a_2^{10} a_3^6 - \\
& 4575885407652151296000 a_1^2 a_2^8 a_3^8 + 10295742167217340416000 a_1^2 a_2^6 a_3^{10} + 31199218688537395200 a_1^6 a_2^6 a_3^6 Y^2 - \\
& 140396484098418278400 a_1^6 a_2^4 a_3^8 Y^2 - 194995116803358720 a_1^{10} a_2^2 a_3^6 Y^2 + 11699707008201523200 a_1^8 a_2^2 a_3^8 Y^2 - \\
& 175495605123022848000 a_1^6 a_2^2 a_3^{10} Y^2 - 935976560656121856000 a_1^4 a_2^6 a_3^8 Y^2 + 4211894522952548352000 a_1^4 a_2^4 a_3^{10} Y^2 - \\
& 1247968747541495808000 a_1^2 a_2^{10} a_3^6 Y^2 + 11231718727873462272000 a_1^2 a_2^8 a_3^8 Y^2 - 25271367137715290112000 a_1^2 a_2^6 a_3^{10} Y^2 + \\
& 11699707008201523200 i a_1^8 a_2^2 a_3^8 T + 31199218688537395200 i a_1^6 a_2^6 a_3^6 T - 140396484098418278400 i a_1^6 a_2^4 a_3^8 T - \\
& 175495605123022848000 i a_1^6 a_2^2 a_3^{10} T - 5615859363936731136000 i a_1^4 a_2^6 a_3^8 T + 1663958330055327744000 i a_1^2 a_2^{10} a_3^6 Y - \\
& 14975624970497949696000 i a_1^2 a_2^8 a_3^8 Y + 233994140164030464000 i a_1^6 a_2^2 a_3^{10} Y + 1247968747541495808000 i a_1^4 a_2^6 a_3^8 Y + \\
& 259993489071144960 i a_1^{10} a_2^2 a_3^6 Y - 15599609344268697600 i a_1^8 a_2^2 a_3^8 Y - 41598958251383193600 i a_1^6 a_2^6 a_3^6 Y + \\
& 187195312131224371200 i a_1^6 a_2^4 a_3^8 Y + 33695156183620386816000 i a_1^2 a_2^6 a_3^{10} Y + 4211894522952548352000 i a_1^4 a_2^4 a_3^{10} T - \\
& 935976560656121856000 i a_1^4 a_2^6 a_3^8 T - 1247968747541495808000 i a_1^2 a_2^{10} a_3^6 T + 11231718727873462272000 i a_1^2 a_2^8 a_3^8 T - \\
& 25271367137715290112000 i a_1^2 a_2^6 a_3^{10} T - 194995116803358720 i a_1^{10} a_2^2 a_3^6 T - 98716277881700352000 a_1^6 a_2^2 a_3^{10} T^2 - \\
& 526486815369068544000 a_1^4 a_2^6 a_3^8 T^2 + 2369190669160808448000 a_1^4 a_2^4 a_3^{10} T^2 - 701982420492091392000 a_1^2 a_2^{10} a_3^6 T^2 + \\
& 6317841784428822528000 a_1^2 a_2^8 a_3^8 T^2 - 109684753201889280 a_1^{10} a_2^2 a_3^6 T^2 + 6581085192113356800 a_1^8 a_2^2 a_3^8 T^2 + \\
& 17549560512302284800 a_1^6 a_2^6 a_3^6 T^2 - 78973022305360281600 a_1^6 a_2^4 a_3^8 T^2 - 14215144014964850688000 a_1^2 a_2^6 a_3^{10} T^2 + \\
& 292492675205038080 a_1^{10} a_2^2 a_3^6 Y T - 17549560512302284800 a_1^8 a_2^2 a_3^8 Y T - 46798828032806092800 a_1^6 a_2^6 a_3^6 Y T + \\
& 210594726147627417600 a_1^6 a_2^4 a_3^8 Y T + 263243407684534272000 a_1^6 a_2^2 a_3^{10} Y T + 1403964840984182784000 a_1^4 a_2^6 a_3^8 Y T + \\
& 1871953121312243712000 a_1^2 a_2^{10} a_3^6 Y T - 16847578091810193408000 a_1^2 a_2^8 a_3^8 Y T + 37907050706572935168000 a_1^2 a_2^6 a_3^{10} Y T - \\
& 6317841784428822528000 a_1^4 a_2^4 a_3^{10} Y T X^8 + (519986978142289920 a_1^{10} a_2^2 a_3^6 Y^3 - 31199218688537395200 a_1^8 a_2^2 a_3^8 Y^3 - \\
& 83197916502766387200 a_1^6 a_2^6 a_3^6 Y^3 + 374390624262448742400 a_1^6 a_2^4 a_3^8 Y^3 + 467988280328060928000 a_1^6 a_2^2 a_3^{10} Y^3 + \\
& 2495937495082991616000 a_1^4 a_2^6 a_3^8 Y^3 - 11231718727873462272000 a_1^4 a_2^4 a_3^{10} Y^3 + 3327916660110655488000 a_1^2 a_2^{10} a_3^6 Y^3 - \\
& 29951249940995899392000 a_1^2 a_2^8 a_3^8 Y^3 + 67390312367240773632000 a_1^2 a_2^6 a_3^{10} Y^3 - 33695156183620386816000 i a_1^4 a_2^4 a_3^{10} Y T + \\
& 9983749980331966464000 i a_1^2 a_2^{10} a_3^6 Y T - 89853749822987698176000 i a_1^2 a_2^8 a_3^8 Y T + 202170937101722320896000 i a_1^2 a_2^6 a_3^{10} Y T + \\
& 1559960934426869760 i a_1^{10} a_2^2 a_3^6 Y T - 93597656065612185600 i a_1^8 a_2^2 a_3^8 Y T - 2495937495082991616000 i a_1^6 a_2^6 a_3^6 Y T + \\
& 11231718727873462272000 i a_1^6 a_2^4 a_3^8 Y T + 1403964840984182784000 i a_1^6 a_2^2 a_3^{10} Y T + 7487812485248974848000 i a_1^4 a_2^6 a_3^8 Y T + \\
& 12635683568857645056000 i a_1^4 a_2^4 a_3^{10} T^2 - 2807929681968365568000 i a_1^4 a_2^6 a_3^8 T^2 - 935976560656121856000 i a_1^2 a_2^6 a_3^{10} Y^2 - \\
& 3743906242624487424000 i a_1^2 a_2^{10} a_3^6 T^2 + 33695156183620386816000 i a_1^2 a_2^8 a_3^8 T^2 - 75814101413145870336000 i a_1^2 a_2^6 a_3^{10} T^2 - \\
& 584983530410076160 i a_1^{10} a_2^2 a_3^6 T^2 + 35099121024604569600 i a_1^8 a_2^2 a_3^8 T^2 + 93597656065612185600 i a_1^6 a_2^6 a_3^6 T^2 - \\
& 421189452295254835200 i a_1^6 a_2^4 a_3^8 T^2 - 1039973956284579840 i a_1^{10} a_2^2 a_3^6 Y^2 + 6239843737074790400 i a_1^8 a_2^2 a_3^8 Y^2 + \\
& 166395833005532774400 i a_1^6 a_2^6 a_3^6 Y^2 - 748781248524897484800 i a_1^6 a_2^4 a_3^8 Y^2 - 4991874990165983232000 i a_1^4 a_2^6 a_3^8 Y^2 - \\
& 526486815369068544000 i a_1^6 a_2^2 a_3^{10} T^2 + 22463437455746924544000 i a_1^4 a_2^4 a_3^{10} Y^2 - 6655833320221310976000 i a_1^2 a_2^{10} a_3^6 Y^2 + \\
& 59902499881991798784000 i a_1^2 a_2^8 a_3^8 Y^2 - 134780624734481547264000 i a_1^2 a_2^6 a_3^{10} Y^2 + 554652776685109248000 i a_1^4 a_2^6 a_3^8 - \\
& 2495937495082991616000 i a_1^4 a_2^4 a_3^{10} + 739537035580145664000 i a_1^2 a_2^{10} a_3^6 - 6655833320221310976000 i a_1^2 a_2^8 a_3^8 + \\
& 14975624970497949696000 i a_1^2 a_2^6 a_3^{10} + 115552661809397760 i a_1^{10} a_2^2 a_3^6 - 6933159708563865600 i a_1^8 a_2^2 a_3^8 - \\
& 18488425889503641600 i a_1^6 a_2^6 a_3^6 + 83197916502766387200 i a_1^6 a_2^4 a_3^8 + 103997395628457984000 i a_1^6 a_2^2 a_3^{10}
\end{aligned}$$

19743255763400704000 $a_1^6 a_2^2 a_3^{10} T^3 + 2287942703826075648000 a_1^4 a_2^6 a_3^8 T - 1052973630738137088000 a_1^4 a_2^6 a_3^8 T^3 -$
 10295742167217340416000 $a_1^4 a_2^4 a_3^{10} T + 4738381338321616896000 a_1^4 a_2^4 a_3^{10} T^3 + 3050590271768100864000 a_1^2 a_2^{10} a_3^6 T -$
 140396440984182784000 $a_1^2 a_2^{10} a_3^6 T^3 - 27455312445912907776000 a_1^2 a_2^8 a_3^8 T + 12635683568857645056000 a_1^2 a_2^8 a_3^8 T^3 -$
 157946044610720563200 $a_1^6 a_2^4 a_3^8 T^3 + 428989256967389184000 a_1^6 a_2^2 a_3^{10} T + 476654729963765760 a_1^6 a_2^2 a_3^{10} T^3 -$
 219369506403778560 $a_1^{10} a_2^2 a_3^6 T^3 - 28599283797825945600 a_1^8 a_2^2 a_3^8 T + 13162170384226713600 a_1^8 a_2^2 a_3^8 T^3 -$
 76264756794202521600 $a_1^6 a_2^6 a_3^6 T + 35099121024604569600 a_1^6 a_2^6 a_3^6 T^3 + 343191405573911347200 a_1^6 a_2^4 a_3^8 T +$
 38132378397101260800 $a_1^8 a_2^2 a_3^8 T + 101686342392270028800 a_1^6 a_2^6 a_3^6 T - 457588540765215129600 a_1^6 a_2^4 a_3^8 T -$
 571985675956518912000 $a_1^6 a_2^2 a_3^{10} T - 3050590271768100864000 a_1^4 a_2^6 a_3^8 T + 36607083261217210368000 a_1^2 a_2^8 a_3^8 T -$
 82365937337738723328000 $a_1^2 a_2^6 a_3^{10} T - 406745369569081152000 a_1^2 a_2^{10} a_3^6 T + 13727656222956453888000 a_1^4 a_2^4 a_3^{10} T +$
 6177453003304042496000 $a_1^2 a_2^6 a_3^{10} T - 28430288029929701376000 a_1^2 a_2^6 a_3^{10} T^3 - 635539639951687680 a_1^{10} a_2^2 a_3^6 T -$
 1169970700820152320 $a_1^{10} a_2^2 a_3^6 T^2 + 70198242049209139200 a_1^8 a_2^2 a_3^8 T^2 + 187195312131224371200 a_1^6 a_2^6 a_3^6 T^2 -$
 842378904590509670400 $a_1^6 a_2^4 a_3^8 T^2 - 1052973630738137088000 a_1^4 a_2^6 a_3^8 T^2 - 5615859363936731136000 a_1^4 a_2^6 a_3^8 T^2 +$
 25271367137715290112000 $a_1^4 a_2^4 a_3^{10} T^2 - 7487812485248974848000 a_1^2 a_2^{10} a_3^6 T^2 + 67390312367240773632000 a_1^2 a_2^8 a_3^8 T^2 -$
 15162820826291740672000 $a_1^2 a_2^6 a_3^{10} T^2 + 877478025615114240 a_1^{10} a_2^2 a_3^6 T^2 - 52648681536906854400 a_1^8 a_2^2 a_3^8 T^2 -$
 4333224817852416000 $a_1^8 a_2^2 a_3^8 T^2 + 11555266180939776000 a_1^6 a_2^4 a_3^8 T^2 + 789730223053602816000 a_1^6 a_2^2 a_3^{10} T^2 +$
 4211894522952548352000 $a_1^4 a_2^6 a_3^8 T^2 + 5615859363936731136000 a_1^2 a_2^{10} a_3^6 T^2 - 50542734275430580224000 a_1^2 a_2^8 a_3^8 T^2 +$
 113721152119718805504000 $a_1^2 a_2^6 a_3^{10} T^2 - 18953525353286467584000 a_1^4 a_2^4 a_3^{10} T^2 X^7 + (-72220413630873600 a_1^{10} a_2^2 a_3^6 +$
 4333224817852416000 $a_1^8 a_2^2 a_3^8 + 11555266180939776000 a_1^6 a_2^4 a_3^8 - 51998697814228992000 a_1^6 a_2^2 a_3^{10} - 64998372267786240000 a_1^6 a_2^2 a_3^{10} -$
 34665798542819328000 $a_1^4 a_2^6 a_3^8 + 155996093442686976000 a_1^4 a_2^4 a_3^{10} - 462210647237591040000 a_1^2 a_2^{10} a_3^6 +$
 4159895825138319360000 $a_1^2 a_2^8 a_3^8 - 9359765606561218560000 a_1^2 a_2^6 a_3^{10} - 58966523321335676928000 a_1^4 a_2^4 a_3^{10} Y^3 T +$
 17471562465580941312000 $a_1^2 a_2^{10} a_3^6 Y^3 T - 157244062190228471808000 a_1^2 a_2^8 a_3^8 Y^3 T + 353799139928014061568000 a_1^2 a_2^6 a_3^{10} Y^3 T +$
 2729931635247022080 $a_1^{10} a_2^2 a_3^6 Y^3 T - 163795898114821324800 a_1^8 a_2^2 a_3^8 Y^3 T - 436789061639523532800 a_1^6 a_2^6 a_3^6 Y^3 T +$
 1965550777777855897600 $a_1^6 a_2^4 a_3^8 Y^3 T + 2456938471722319872000 a_1^6 a_2^2 a_3^{10} Y^3 T + 13103671849185705984000 a_1^4 a_2^6 a_3^8 Y^3 T -$
 3071173089652899840 $a_1^{10} a_2^2 a_3^6 Y^2 T^2 + 184270385379173990400 a_1^8 a_2^2 a_3^8 Y^2 T^2 + 49138769434463974400 a_1^6 a_2^6 a_3^6 Y^2 T^2 -$
 2211244624550087884800 $a_1^6 a_2^4 a_3^8 Y^2 T^2 - 2764055780687609856000 a_1^6 a_2^2 a_3^{10} Y^2 T^2 - 1474163083033919232000 a_1^4 a_2^6 a_3^8 Y^2 T^2 +$
 66337338736012636544000 $a_1^4 a_2^4 a_3^{10} Y^2 T^2 - 196550777778558976000 a_1^4 a_2^2 a_3^{10} Y^2 T^2 + 1678959696964007030784000 a_1^2 a_2^8 a_3^8 Y^2 T^2 -$
 3980240324190215819264000 $a_1^2 a_2^6 a_3^{10} Y^2 T^2 - 35902198377945100800 a_1^6 a_2^6 a_3^6 Y^2 T^2 + 1601559892678252953600 a_1^6 a_2^4 a_3^8 Y^2 T^2 +$
 2224388739830906880 $a_1^{10} a_2^2 a_3^6 Y^2 T^2 - 13346332438985412800 a_1^8 a_2^2 a_3^8 Y^2 T^2 + 2001949865847816192000 a_1^6 a_2^2 a_3^{10} Y^2 T^2 +$
 10677065951188353024000 $a_1^4 a_2^6 a_3^8 Y^2 T^2 - 48046796780347588608000 a_1^4 a_2^4 a_3^{10} Y^2 T^2 + 142368087934917804032000 a_1^2 a_2^{10} a_3^6 Y^2 T^2 -$
 128124791414260236288000 $a_1^2 a_2^8 a_3^8 Y^2 T^2 + 288280780682085531648000 a_1^2 a_2^6 a_3^{10} Y^2 T^2 - 909977211749007360 a_1^{10} a_2^2 a_3^6 Y^4 +$
 5459863270494041600 $a_1^8 a_2^2 a_3^8 Y^4 + 145596353879841177600 a_1^6 a_2^6 a_3^6 Y^4 - 655183592459285299200 a_1^6 a_2^4 a_3^8 Y^4 -$
 818974920574106624000 $a_1^6 a_2^2 a_3^{10} Y^4 - 4367890616395235328000 a_1^4 a_2^6 a_3^8 Y^4 + 196555077778558976000 a_1^4 a_2^4 a_3^{10} Y^4 -$
 5823854155193647104000 $a_1^2 a_2^{10} a_3^6 Y^4 + 52414687396742823936000 a_1^2 a_2^8 a_3^8 Y^4 - 117933046642671353856000 a_1^2 a_2^6 a_3^{10} Y^4 +$
 196555077778558976000 $a_1^2 a_2^6 a_3^{10} Y^4 T^2 - 88449784982003515392000 a_1^4 a_2^4 a_3^{10} Y^4 T^2 + 26207343698371411968000 a_1^4 a_2^2 a_3^8 Y^4 T^2 -$
 235866093285342707712000 $a_1^2 a_2^8 a_3^8 Y^4 T^2 + 53069870989201929352000 a_1^2 a_2^6 a_3^{10} Y^4 T^2 + 409489742687533120 a_1^{10} a_2^2 a_3^6 Y^4 T^2 -$
 245693847172231987200 $a_1^8 a_2^2 a_3^8 Y^4 T^2 - 655183592459285299200 a_1^6 a_2^6 a_3^6 Y^4 T^2 + 2948326166066783846400 a_1^6 a_2^4 a_3^8 Y^4 T^2 +$
 368540770783479808000 $a_1^6 a_2^2 a_3^{10} Y^4 T^2 - 26207343698371411968000 a_1^4 a_2^6 a_3^8 Y^4 T^2 - 5459863270494044160 a_1^{10} a_2^2 a_3^6 Y^4 T^2 +$
 327591796229642649600 $a_1^8 a_2^2 a_3^8 Y^4 T^2 + 873578123279047065600 a_1^6 a_2^6 a_3^6 Y^4 T^2 - 393110155475711795200 a_1^6 a_2^4 a_3^8 Y^4 T^2 -$
 4913876943444639744000 $a_1^6 a_2^2 a_3^{10} Y^4 T^2 + 117933046642671353856000 a_1^4 a_2^4 a_3^{10} Y^4 T^2 - 34943124931161882624000 a_1^4 a_2^2 a_3^8 Y^4 T^2 +$
 314488124380456943616000 $a_1^2 a_2^8 a_3^8 Y^4 T^2 - 707598279856028123136000 a_1^2 a_2^6 a_3^{10} Y^4 T^2 + 17471562465580941312000 a_1^4 a_2^4 a_3^{10} Y -$
 517679249061019648000 $a_1^2 a_2^{10} a_3^6 Y + 46590833241549176832000 a_1^2 a_2^8 a_3^8 Y - 727981769399205888000 a_1^2 a_2^6 a_3^{10} Y -$
 2282569436795764736000 $a_1^4 a_2^6 a_3^8 Y - 808868632665784320 a_1^{10} a_2^2 a_3^6 Y + 48532117959947059200 a_1^8 a_2^2 a_3^8 Y +$
 13918981226525491200 $a_1^6 a_2^6 a_3^6 Y - 582385415519364710400 a_1^6 a_2^4 a_3^8 Y - 104829374793485647872000 a_1^6 a_2^2 a_3^{10} Y +$
 2426605897997352960 $a_1^{10} a_2^2 a_3^6 Y^3 - 145596353879841177600 a_1^8 a_2^2 a_3^8 Y^3 - 388256943679576473600 a_1^6 a_2^6 a_3^6 Y^3 +$
 1747156246558094131200 $a_1^6 a_2^4 a_3^8 Y^3 + 2183945308197617664000 a_1^6 a_2^2 a_3^{10} Y^3 + 11647708310387294208000 a_1^4 a_2^6 a_3^8 Y^3 -$
 52414687396742823936000 $a_1^4 a_2^4 a_3^{10} Y^3 + 15530277747183058944000 a_1^2 a_2^{10} a_3^6 Y^3 - 139772499724647530496000 a_1^2 a_2^8 a_3^8 Y^3 +$
 314488124380456943616000 $a_1^2 a_2^6 a_3^{10} Y^3 - 13103671849185705984000 a_1^4 a_2^4 a_3^{10} T + 2911927077596823552000 a_1^4 a_2^6 a_3^8 T -$
 4913876943444639744000 $a_1^4 a_2^2 a_3^8 T^3 + 22112446245500878848000 a_1^4 a_2^2 a_3^{10} T^3 + 3882569436795764736000 a_1^2 a_2^{10} a_3^6 T^3 +$
 6551835924592852992000 $a_1^2 a_2^{10} a_3^6 T^3 - 34943124931161882624000 a_1^2 a_2^8 a_3^8 T + 58966523321335676928000 a_1^2 a_2^8 a_3^8 T^3 +$
 78622031095114235904000 $a_1^2 a_2^6 a_3^{10} T - 1326746777473005273088000 a_1^2 a_2^6 a_3^{10} T^3 + 606651474499338240 a_1^{10} a_2^2 a_3^6 T -$
 1023724363217633280 $a_1^{10} a_2^2 a_3^6 T^3 - 36399088469960294400 a_1^8 a_2^2 a_3^8 T + 61423461793057996800 a_1^8 a_2^2 a_3^8 T^3 -$
 97064235919894118400 $a_1^6 a_2^6 a_3^6 T + 163795898114821324800 a_1^6 a_2^6 a_3^6 T^3 + 436789061639523532800 a_1^6 a_2^4 a_3^8 T -$
 737081541516695961600 $a_1^6 a_2^4 a_3^8 T^3 + 545986327049404416000 a_1^6 a_2^2 a_3^{10} T - 921351926895869952000 a_1^6 a_2^2 a_3^{10} T^3 +$
 1126096799539396608000 $a_1^6 a_2^2 a_3^{10} T^2 - 259130229439463424000 a_1^6 a_2^2 a_3^{10} T^4 + 6005849597543448576000 a_1^4 a_2^6 a_3^8 T^2 -$
 1382027890343804928000 $a_1^4 a_2^6 a_3^8 T^4 - 27026323188945518592000 a_1^4 a_2^4 a_3^{10} T^2 + 6219125506547122176000 a_1^4 a_2^4 a_3^{10} T^4 +$
 8007799463391264768000 $a_1^2 a_2^{10} a_3^6 T^2 - 1842703853791739904000 a_1^2 a_2^{10} a_3^6 T^4 - 72070195170521382912000 a_1^2 a_2^8 a_3^8 T^2 +$
 16584334684125659136000 $a_1^2 a_2^8 a_3^8 T^4 - 207304183551570739200 a_1^6 a_2^4 a_3^8 T^4 + 1251218666154885120 a_1^{10} a_2^2 a_3^6 T^2 -$
 287922477154959360 $a_1^{10} a_2^2 a_3^6 T^4 - 75073119969293107200 a_1^8 a_2^2 a_3^8 T^2 + 17275348629297561600 a_1^8 a_2^2 a_3^8 T^4 -$
 200194986584781619200 $a_1^6 a_2^6 a_3^6 T^2 + 46067596344793497600 a_1^6 a_2^6 a_3^6 T^4 + 900877439631517286400 a_1^6 a_2^4 a_3^8 T^2 +$
 162157939133673111552000 $a_1^2 a_2^6 a_3^{10} T^2 - 37314753039282733056000 a_1^2 a_2^6 a_3^{10} T^4 - 3336583109746360320 a_1^{10} a_2^2 a_3^6 Y T +$
 1535586544826449920 $a_1^{10} a_2^2 a_3^6 Y T^3 + 200194986584781619200 a_1^8 a_2^2 a_3^8 Y T - 92135192689586995200 a_1^8 a_2^2 a_3^8 Y T^3 +$
 533853297559417651200 $a_1^6 a_2^6 a_3^6 Y T - 245693847172231987200 a_1^6 a_2^6 a_3^6 Y T^3 - 2402339839017379430400 a_1^6 a_2^4 a_3^8 Y T +$
 1105622312275043942400 $a_1^6 a_2^4 a_3^8 Y T^3 - 3002924798771724288000 a_1^6 a_2^2 a_3^{10} Y T + 1382027890343804928000 a_1^6 a_2^2 a_3^{10} Y T^3 -$
 16015598926782529536000 $a_1^4 a_2^6 a_3^8 Y T + 7370815415166959616000 a_1^4 a_2^6 a_3^8 Y T^3 - 21354131902376706048000 a_1^2 a_2^{10} a_3^6 Y T +$
 982775388689279488000 $a_1^2 a_2^{10} a_3^6 Y T^3 + 19218718121390354432000 a_1^2 a_2^8 a_3^8 Y T - 88449784982003515392000 a_1^2 a_2^8 a_3^8 Y T^3 -$
 432421171023128297472000 $a_1^2 a_2^6 a_3^{10} Y T + 199012016209507099632000 a_1^2 a_2^6 a_3^{10} Y T^3 + 72070195170521382912000 a_1^4 a_2^4 a_3^{10} Y T -$
 3318669368251318272000 $a_1^4 a_2^4 a_3^{10} Y T^3 X^6 + (1091972654098808832 a_1^{10} a_2^2 a_3^6 Y^5 - 65518359245928529920 a_1^8 a_2^2 a_3^8 Y^5 -$
 174715624655809413120 $a_1^6 a_2^6 a_3^6 Y^5 + 786220310951142359040 a_1^6 a_2^4 a_3^8 Y^5 + 98277538868927948800 a_1^6 a_2^2 a_3^{10} Y^5 +$
 5241468739674282393600 $a_1^4 a_2^6 a_3^8 Y^5 - 23586609328534270771200 a_1^4 a_2^4 a_3^{10} Y^5 + 6988624986232376524800 a_1^2 a_2^{10} a_3^6 Y^5 -$
 62897624876991388723200 $a_1^2 a_2^8 a_3^8 Y^5 + 141519655971205624627200 a_1^2 a_2^6 a_3^{10} Y^5 - 444877479661813760 a_1^{10} a_2^2 a_3^6 Y^3 +$

$266926648779708825600 a_1^8 a_2^2 a_3^8 Y^3 + 711804396745890201600 a_1^6 a_2^6 a_3^6 Y^3 - 3203119785356505907200 a_1^6 a_2^4 a_3^8 Y^3 -$
 $4003899731695632384000 a_1^6 a_2^2 a_3^{10} Y^3 - 21354131902376706048000 a_1^4 a_2^6 a_3^8 Y^3 + 96093593560695177216000 a_1^4 a_2^4 a_3^{10} Y^3 -$
 $28472175869835608064000 a_1^2 a_2^{10} a_3^6 Y^3 + 2562495828285204725760000 a_1^2 a_2^8 a_3^8 Y^3 - 576561561364471063296000 a_1^2 a_2^6 a_3^{10} Y^3 -$
 $2211244625500878848000 a_1^4 a_2^6 a_3^8 Y^2 T^3 + 99506008104753954816000 a_1^4 a_2^4 a_3^{10} Y^2 T^3 - 29483261660667838464000 a_1^2 a_2^{10} a_3^6 Y^2 T^3 +$
 $265349354946010546176000 a_1^2 a_2^8 a_3^8 Y^2 T^3 - 597036048628523728896000 a_1^2 a_2^6 a_3^{10} Y^2 T^3 - 4606759634479349760 a_1^{10} a_2^2 a_3^6 Y^2 T^3 +$
 $276405578068760985600 a_1^8 a_2^2 a_3^8 Y^2 T^3 + 737081541516695961600 a_1^6 a_2^6 a_3^6 Y^2 T^3 - 3316866936825131827200 a_1^6 a_2^4 a_3^8 Y^2 T^3 -$
 $4146083671031414784000 a_1^6 a_2^2 a_3^{10} Y^2 T^3 - 4094897452870533120 a_1^{10} a_2^2 a_3^6 Y^4 T + 245693847172231987200 a_1^8 a_2^2 a_3^8 Y^4 T +$
 $655183592459285299200 a_1^6 a_2^6 a_3^6 Y^4 T - 2948326166066783846400 a_1^6 a_2^4 a_3^8 Y^4 T - 3685407707583479808000 a_1^6 a_2^2 a_3^{10} Y^4 T -$
 $19655507773778558976000 a_1^4 a_2^6 a_3^8 Y^4 T + 88449784982003515392000 a_1^4 a_2^4 a_3^{10} Y^4 T - 26207343698371411968000 a_1^2 a_2^{10} a_3^6 Y^4 T +$
 $235866093285342707712000 a_1^2 a_2^8 a_3^8 Y^4 T - 530698709892021092352000 a_1^2 a_2^6 a_3^{10} Y^4 T + 1554781376636780544000 a_1^6 a_2^2 a_3^8 Y^4 T +$
 $8292167342062829568000 a_1^4 a_2^6 a_3^8 Y^4 T - 37314753039282733056000 a_1^4 a_2^4 a_3^{10} Y^4 T + 11056223122750439424000 a_1^2 a_2^{10} a_3^6 Y^4 T -$
 $99506008104753954816000 a_1^2 a_2^8 a_3^8 Y^4 T + 223888518235696398336000 a_1^2 a_2^6 a_3^{10} Y^4 T + 1727534862929756160 a_1^{10} a_2^2 a_3^6 Y^4 T -$
 $103652091775785369600 a_1^8 a_2^2 a_3^8 Y^4 T - 276405578068760985600 a_1^6 a_2^6 a_3^6 Y^4 T + 1243825101309424435200 a_1^6 a_2^4 a_3^8 Y^4 T +$
 $796048064838031638528000 a_1^2 a_2^6 a_3^{10} Y^3 T^2 + 6142346179305799680 a_1^{10} a_2^2 a_3^6 Y^3 T^2 - 368540770758347980800 a_1^8 a_2^2 a_3^8 Y^3 T^2 -$
 $982775388688927948800 a_1^6 a_2^6 a_3^6 Y^3 T^2 + 4422489249100175769600 a_1^6 a_2^4 a_3^8 Y^3 T^2 + 552811156137521972000 a_1^6 a_2^2 a_3^{10} Y^3 T^2 +$
 $29483261660667838464000 a_1^4 a_2^6 a_3^8 Y^3 T^2 - 132674677473005273088000 a_1^4 a_2^4 a_3^{10} Y^3 T^2 + 39311015547557117952000 a_1^2 a_2^{10} a_3^6 Y^3 T^2 -$
 $353799139928014061568000 a_1^2 a_2^8 a_3^8 Y^3 T^2 + 218394530819761766400 a_1 a_1^8 a_2^2 a_3^8 Y^3 T - 368540770758347980800 a_1 a_1^8 a_2^2 a_3^8 Y^3 T +$
 $582385415519364710400 a_1^6 a_2^6 a_3^6 Y^3 T - 982775388688927948800 a_1^6 a_2^4 a_3^8 Y^3 T - 26207343698371411968000 a_1^6 a_2^2 a_3^{10} Y^3 T +$
 $4422489249100175769600 a_1^6 a_2^2 a_3^{10} Y^3 T - 3275917962296426496000 a_1^6 a_2^2 a_3^{10} Y^3 T + 552811156137521972000 a_1^6 a_2^2 a_3^{10} Y^3 T -$
 $17471562465580941312000 a_1^4 a_2^6 a_3^8 Y^3 T - 58966523321335676928000 a_1^4 a_2^4 a_3^{10} Y^3 T + 1091926540988088320 a_1^{10} a_2^2 a_3^6 Y^3 T -$
 $655183592459285299200 a_1^8 a_2^2 a_3^8 Y^3 T - 1747156246558094131200 a_1^6 a_2^6 a_3^6 Y^3 T + 7862203109511423590400 a_1^6 a_2^4 a_3^8 Y^3 T +$
 $9827753886889279488000 a_1^6 a_2^2 a_3^{10} Y^3 T + 52414687396742823936000 a_1^4 a_2^6 a_3^8 Y^3 T - 235866930825342707712000 a_1^4 a_2^4 a_3^{10} Y^3 T +$
 $69886249862323765248000 a_1^2 a_2^{10} a_3^6 Y^3 T - 628976248760913887232000 a_1^2 a_2^8 a_3^8 Y^3 T + 1415196559712056246272000 a_1^2 a_2^6 a_3^{10} Y^3 T -$
 $1228469235611599360 a_1^{10} a_2^2 a_3^6 Y^2 T^2 + 737081541516695961600 a_1^8 a_2^2 a_3^8 Y^2 T^2 + 1965550777376780544000 a_1^6 a_2^2 a_3^8 Y^2 T^2 -$
 $8844978498200351539200 a_1^6 a_2^4 a_3^8 Y^2 T^2 - 11056223122750439424000 a_1^6 a_2^2 a_3^{10} Y^2 T^2 + 265349354946010546176000 a_1^4 a_2^6 a_3^8 Y^2 T^2 -$
 $7862203109511423590400 a_1^2 a_2^{10} a_3^6 Y^2 T^2 + 707598279856028123136000 a_1^2 a_2^8 a_3^8 Y^2 T^2 - 1592096129676063277056000 a_1^2 a_2^6 a_3^{10} Y^2 T^2 +$
 $29483261660667838464000 a_1^4 a_2^6 a_3^8 Y^2 T^2 + 78622031095114235904000 a_1^4 a_2^4 a_3^{10} Y^2 T^2 - 132674677473005273088000 a_1^4 a_2^2 a_3^{10} Y^2 T^2 -$
 $23295416620774588416000 a_1^2 a_2^{10} a_3^6 Y^2 T^2 + 39311015547557117952000 a_1^2 a_2^8 a_3^8 Y^2 T^2 + 209658749566971295744000 a_1^2 a_2^6 a_3^{10} Y^2 T^2 -$
 $353799139928014061568000 a_1^2 a_2^8 a_3^8 Y^2 T^2 - 471732186570685415424000 a_1^2 a_2^6 a_3^{10} Y^2 T^2 + 796048064838031638528000 a_1^2 a_2^6 a_3^{10} Y^2 T^2 -$
 $3639908846996029440 a_1^{10} a_2^2 a_3^6 Y^2 T + 6142346179305799680 a_1^{10} a_2^2 a_3^6 Y^2 T^3 + 96293884841164800 a_1^6 a_2 a_3^6 c_2 -$
 $380420285792256000 a_1^4 a_2^6 a_3^3 c_3 - 2888816545234944000 a_1^4 a_2 a_3^5 c_2 + 142657607172096000 a_1^6 a_2^2 a_3^5 d_3 +$
 $38517553936465920 a_1^5 a_2^2 a_3^6 d_1 - 3423782572130304000 a_1^4 a_2^4 a_3^5 d_3 - 1155526618093977600 a_1^3 a_2^2 a_3^8 d_1 +$
 $20542695432781824000 a_1^2 a_2^6 a_3^5 d_3 + 7703510787293184000 a_1^2 a_2^5 a_3^6 d_2 - 34665798542819328000 a_1^2 a_2^3 a_3^8 d_2 -$
 $142657607172096000 a_1^6 a_2^2 a_3^5 c_3 - 38517553936465920 a_1^5 a_2^2 a_3^6 c_1 + 3423782572130304000 a_1^4 a_2^4 a_3^5 c_3 +$
 $1155526618093977600 a_1^3 a_2^2 a_3^8 c_1 - 20542695432781824000 a_1^2 a_2^6 a_3^5 c_3 - 7703510787293184000 a_1^2 a_2^5 a_3^6 c_2 +$
 $34665798542819328000 a_1^2 a_2^3 a_3^8 c_2 + 1228469235861159936000 a_1^6 a_2^2 a_3^{10} T^2 - 1036520917757853696000 a_1^6 a_2^2 a_3^{10} T^4 -$
 $475525272403200 a_1^8 a_2^2 a_3^3 d_3 + 57063042868838400 a_1^6 a_2^4 a_3^3 d_3 - 96293884841164800 a_1^6 a_2 a_3^6 d_2 + 380420285792256000 a_1^4 a_2^6 a_3^3 d_3 -$
 $52414687396742823936000 a_1^4 a_2^4 a_3^{10} Y^2 + 15530277747183058944000 a_1^2 a_2^{10} a_3^6 Y^2 - 139772499724647530496000 a_1^2 a_2^8 a_3^8 Y^2 +$
 $314488124380456943616000 a_1^2 a_2^6 a_3^{10} Y^2 - 3639908846996029440 a_1^{10} a_2^2 a_3^6 Y^4 + 218394530819761766400 a_1^8 a_2^2 a_3^8 Y^4 +$
 $582385415519364710400 a_1^6 a_2^6 a_3^6 Y^4 - 26207343698371411968000 a_1^6 a_2^4 a_3^8 Y^4 - 3275917962296426496000 a_1^6 a_2^2 a_3^{10} Y^4 -$
 $17471562465580941312000 a_1^4 a_2^6 a_3^8 Y^4 + 78622031095114235904000 a_1^4 a_2^4 a_3^{10} Y^4 - 23295416620774588416000 a_1^2 a_2^{10} a_3^6 Y^4 +$
 $209658749586971295744000 a_1^2 a_2^8 a_3^8 Y^4 - 471732186570685415424000 a_1^2 a_2^6 a_3^{10} Y^4 - 29483261660667838464000 a_1^4 a_2^4 a_3^{10} T^2 +$
 $6551835924592852992000 a_1^4 a_2^6 a_3^8 T^2 - 552811156137521972000 a_1^4 a_2^4 a_3^{10} T^2 + 2183945308197617664000 a_1^2 a_2^{10} a_3^6 T^2 +$
 $24876502026188488704000 a_1^2 a_2^8 a_3^8 T^2 + 8735781232790470656000 a_1^2 a_2^6 a_3^{10} T^2 - 7370815415166959616000 a_1^2 a_2^6 a_3^{10} T^4 -$
 $78622031095114235904000 a_1^2 a_2^8 a_3^8 T^2 + 66337338736502636544000 a_1^2 a_2^8 a_3^8 T^4 + 176899569964007030784000 a_1^2 a_2^6 a_3^{10} T^2 -$
 $149259012157130932224000 a_1^2 a_2^6 a_3^{10} T^4 + 1364965817623511040 a_1^{10} a_2^2 a_3^6 T^2 - 1151689908619837400 a_1^{10} a_2^2 a_3^6 T^4 -$
 $81897949057410662400 a_1^8 a_2^2 a_3^8 T^2 + 69101394517190246400 a_1^8 a_2^2 a_3^8 T^4 - 218394530819761766400 a_1^6 a_2^6 a_3^6 T^2 +$
 $184270385379173990400 a_1^6 a_2^6 a_3^6 T^4 + 982775388688927948800 a_1^6 a_2^4 a_3^8 T^2 - 829216734206282956800 a_1^6 a_2^4 a_3^8 T^4 +$
 $2426605897997352960 a_1^{10} a_2^2 a_3^6 Y^2 - 145596353879841177600 a_1^8 a_2^2 a_3^8 Y^2 - 388256943679576473600 a_1^6 a_2^6 a_3^6 Y^2 +$
 $1747156246558094131200 a_1^6 a_2^4 a_3^8 Y^2 + 2888816545234944000 a_1^4 a_2 a_3^5 d_2 - 4565043429507072000 a_1^2 a_2^8 a_3^3 d_3 -$
 $3081404314917273600 a_1 a_2^6 a_3^6 d_1 + 13866319417127731200 a_1 a_2^4 a_3^8 d_1 + 11647708310387294208000 a_1^4 a_2^6 a_3^8 Y^2 +$
 $4565043429507072000 a_1^2 a_2^8 a_3^3 c_3 + 3081404314917273600 a_1 a_1 a_2^6 a_3^6 c_1 - 13866319417127731200 a_1 a_1 a_2^4 a_3^8 c_1 +$
 $4755253572403200 a_1^8 a_2^2 a_3^3 c_3 - 57063042868838400 a_1^6 a_2^4 a_3^3 c_3 + 1689145199309094912000 a_1^6 a_2^2 a_3^{10} T^3 -$
 $233217206495517081600 a_1^6 a_2^2 a_3^{10} T^5 - 1559960934426869760000 a_1^4 a_2^6 a_3^8 T + 9008774396315172864000 a_1^4 a_2^6 a_3^8 T^3 -$
 $1243825101309424435200 a_1^4 a_2^6 a_3^8 T^5 + 7019824204920913920000 a_1^4 a_2^4 a_3^{10} T - 40539484783418277888000 a_1^4 a_2^4 a_3^{10} T^3 +$
 $5597212955892409958400 a_1^4 a_2^4 a_3^{10} T^5 - 2079947912569159680000 a_1^2 a_2^{10} a_3^6 T + 12011699195086897152000 a_1^2 a_2^{10} a_3^6 T^3 -$
 $1658433468412565913600 a_1^2 a_2^{10} a_3^6 T^5 + 18719531213122437120000 a_1^2 a_2^8 a_3^8 T - 108105292755782074368000 a_1^2 a_2^8 a_3^8 T^3 +$
 $14925901215713093222400 a_1^2 a_2^8 a_3^8 T^5 + 1351316159447275929600 a_1^6 a_2^4 a_3^8 T^3 - 186573765196413665280 a_1^6 a_2^4 a_3^8 T^5 -$
 $292492675205038080000 a_1^6 a_2^2 a_3^{10} T - 324991861338931200 a_1^{10} a_2^2 a_3^6 T + 1876827999232327680 a_1^{10} a_2^2 a_3^6 T^3 -$
 $259130229439463424 a_1^{10} a_2^2 a_3^6 T^5 + 19499511680335872000 a_1^8 a_2^2 a_3^8 T - 12609679953939660800 a_1^8 a_2^2 a_3^8 T^3 +$
 $15547813766367805440 a_1^8 a_2^2 a_3^8 T^5 + 51998697814228992000 a_1^6 a_2^6 a_3^6 T - 300292479877172428800 a_1^6 a_2^6 a_3^6 T^3 +$
 $41460836710314147840 a_1^6 a_2^6 a_3^6 T^5 - 233994140164030464000 a_1^6 a_2^4 a_3^8 T - 32065863652107878400 a_1^6 a_2^2 a_3^8 Y -$
 $85508969738954342400 a_1^6 a_2^6 a_3^6 Y + 384790363825294540800 a_1^6 a_2^4 a_3^8 Y + 480987954781618176000 a_1^6 a_2^2 a_3^8 Y +$
 $2565269092168630272000 a_1^4 a_2^6 a_3^8 Y - 30783229106023563264000 a_1^2 a_2^8 a_3^8 Y + 69262265488553017344000 a_1^2 a_2^6 a_3^{10} Y +$
 $3420358789558173696000 a_1^2 a_2^{10} a_3^6 Y - 11543710914758836224000 a_1^4 a_2^4 a_3^{10} Y - 42118945229525483520000 a_1^2 a_2^6 a_3^{10} T +$
 $243236908700509667328000 a_1^2 a_2^6 a_3^{10} T^3 - 33583277735354459750400 a_1^2 a_2^6 a_3^{10} T^5 + 534431060868464640 a_1^{10} a_2^2 a_3^6 Y +$
 $10009749329239080960 a_1^{10} a_2^2 a_3^6 Y^2 T - 600584959754344857600 a_1^8 a_2^2 a_3^8 Y^2 T - 1601559892678252953600 a_1^6 a_2^6 a_3^6 Y^2 T +$
 $7207019517052138291200 a_1^6 a_2^4 a_3^8 Y^2 T + 9008774396315172864000 a_1^6 a_2^2 a_3^{10} Y^2 T + 48046796780347588608000 a_1^4 a_2^6 a_3^8 Y^2 T -$
 $216210585511564148736000 a_1^4 a_2^4 a_3^{10} Y^2 T + 64062395707103118144000 a_1^2 a_2^{10} a_3^6 Y^2 T - 576561561364471063296000 a_1^2 a_2^8 a_3^8 Y^2 T +$
 $1297263513069384892416000 a_1^2 a_2^6 a_3^{10} Y^2 T - 7507311996929310720 a_1^{10} a_2^2 a_3^6 Y^2 T + 450438719815758643200 a_1^8 a_2^2 a_3^8 Y^2 T +$

$12011699195086897152000 a_1^6 a_2^6 a_3^6 Y T^2 - 5405264637789103718400 a_1^6 a_2^4 a_3^8 Y T^2 - 6756580797236379648000 a_1^6 a_2^2 a_3^{10} Y T^2 -$
 $36035097585260691456000 a_1^4 a_2^6 a_3^8 Y T^2 - 48046796780347588608000 a_1^2 a_2^{10} a_3^6 Y T^2 + 432421171023128297472000 a_1^2 a_2^8 a_3^8 Y T^2 -$
 $972947634802038669312000 a_1^2 a_2^6 a_3^{10} Y T^2 + 162157939133673111552000 a_1^4 a_2^4 a_3^{10} Y T^2) X^5 + (11412608573767680000 a_1^4 a_2^4 a_3^5 d_3 +$
 $3851755393646592000 a_1^3 a_2^2 a_3^8 d_1 - 68475651442606080000 a_1^2 a_2^6 a_3^5 d_3 - 25678369290977280000 a_1^2 a_2^5 a_3^6 d_2 +$
 $115552661809397760000 a_1^2 a_2^3 a_3^8 d_2 - 475525357240320000 a_1^6 a_2^2 a_3^5 d_3 - 128391846454886400 a_1^5 a_2^3 a_3^6 d_1 -$
 $46221064723759104000 a_1^4 a_2^4 a_3^8 d_1 + 158508452413440000 a_1^8 a_2^2 a_3^3 d_3 - 190210142896128000 a_1^6 a_2^4 a_3^3 d_3 + 320979616137216000 a_1^6 a_2 a_3^6 d_2 -$
 $1268067619307520000 a_1^4 a_2^6 a_3^3 d_3 - 9629388484116480000 a_1^4 a_2 a_3^8 d_2 + 15216811431690240000 a_1^2 a_2^8 a_3^3 d_3 +$
 $10271347716390912000 a_1 a_2^6 a_3^6 d_1 - 3886953441591951360000 a_1^6 a_2^2 a_3^{10} Y T^4 - 20730418355157073920000 a_1^4 a_2^6 a_3^8 Y T^4 +$
 $9328682598206832640000 a_1^4 a_2^4 a_3^{10} Y T^4 - 27640557806876098560000 a_1^2 a_2^{10} a_3^6 Y T^4 + 248765020261884887040000 a_1^2 a_2^8 a_3^8 Y T^4 -$
 $559721295589240995840000 a_1^2 a_2^6 a_3^{10} Y T^4 - 4318837157324390400 a_1^{10} a_2^2 a_3^6 Y T^4 + 259130229439463424000 a_1^8 a_2^2 a_3^8 Y T^4 +$
 $691013945171902464000 a_1^6 a_2^6 a_3^6 Y T^4 - 3109562753273561088000 a_1^6 a_2^4 a_3^8 Y T^4 + 7677932724132249600 a_1^{10} a_2^2 a_3^6 Y T^3 -$
 $460675963447934976000 a_1^8 a_2^2 a_3^8 Y T^3 - 1228469235861159936000 a_1^6 a_2^6 a_3^6 Y T^3 + 5528111561375219712000 a_1^6 a_2^4 a_3^8 Y T^3 +$
 $691013945171902464000 a_1^6 a_2^2 a_3^{10} Y T^3 + 36854077075834798080000 a_1^4 a_2^6 a_3^8 Y T^3 - 165843346841256591360000 a_1^4 a_2^4 a_3^{10} Y T^3 +$
 $4913876943444647440000 a_1^2 a_2^{10} a_3^6 Y T^3 - 442248924910017576960000 a_1^2 a_2^8 a_3^8 Y T^3 + 995060081047539548160000 a_1^2 a_2^6 a_3^{10} Y T^3 -$
 $15850845241344000 a_1^8 a_2^2 a_3^3 c_3 + 190210142896128000 a_1^6 a_2^4 a_3^3 c_3 - 320979616137216000 a_1^6 a_2 a_3^6 c_2 + 1268067619307520000 a_1^4 a_2^6 a_3^3 c_3 +$
 $9629388484116480000 a_1^4 a_2 a_3^8 c_2 - 15216811431690240000 a_1^2 a_2^8 a_3^3 c_3 - 10271347716390912000 a_1^2 a_2^6 a_3^6 c_1 +$
 $46221064723759104000 a_1 a_2^4 a_3^8 c_1 + 475525357240320000 a_1^6 a_2^2 a_3^5 c_3 + 128391846454886400 a_1^5 a_2^3 a_3^6 c_1 -$
 $11412608573767680000 a_1^4 a_2^4 a_3^5 c_3 - 3851755393646592000 a_1^3 a_2^2 a_3^8 c_1 + 68475651442606080000 a_1^2 a_2^6 a_3^5 c_3 +$
 $25678369290977280000 a_1^2 a_2^5 a_3^6 c_2 - 115552661809397760000 a_1^2 a_2^3 a_3^8 c_2 - 909977211749007360 a_1^{10} a_2^2 a_3^6 Y^6 +$
 $54598632704940441600 a_1^8 a_2^2 a_3^8 Y^6 + 145596353879841177600 a_1^6 a_2^6 a_3^6 Y^6 - 655183592459285299200 a_1^6 a_2^4 a_3^8 Y^6 -$
 $818979490574106624000 a_1^6 a_2^2 a_3^{10} Y^6 - 4367890616395235328000 a_1^4 a_2^6 a_3^8 Y^6 + 19655507773778558976000 a_1^4 a_2^4 a_3^{10} Y^6 -$
 $58238541551936471040000 a_1^2 a_2^{10} a_3^6 Y^6 + 52414687396742823936000 a_1^2 a_2^8 a_3^8 Y^6 - 117933046642671353856000 a_1^2 a_2^6 a_3^{10} Y^6 -$
 $161956393399664640 a_1^{10} a_2^2 a_3^6 T^6 + 9717383603979878400 a_1^8 a_2^2 a_3^8 T^6 + 25913022943946342400 a_1^6 a_2^2 a_3^6 T^6 -$
 $116608603247758540800 a_1^6 a_2^4 a_3^8 T^6 - 145760754059698176000 a_1^6 a_2^2 a_3^{10} T^6 - 777390688318390272000 a_1^4 a_2^6 a_3^8 T^6 +$
 $3498258097432756224000 a_1^4 a_2^4 a_3^{10} T^6 - 1036520917757853696000 a_1^2 a_2^{10} a_3^6 T^6 + 9328688259820683264000 a_1^2 a_2^8 a_3^8 T^6 -$
 $209854585496537344000 a_1^2 a_2^6 a_3^{10} T^6 + 1295651147197317120 a_1^{10} a_2^2 a_3^6 Y T^5 + 360350975852606914560000 a_1^4 a_2^4 a_3^{10} Y T^3 -$
 $106770659511883530240000 a_1^2 a_2^{10} a_3^6 Y T^3 + 960939535606951772160000 a_1^2 a_2^8 a_3^8 Y T^3 - 216210585515641487360000 a_1^2 a_2^6 a_3^{10} Y T^3 -$
 $77739068831839027200 a_1^8 a_2^2 a_3^8 Y T^5 - 2073041835515707392000 a_1^6 a_2^6 a_3^6 Y T^5 + 9328688259820683264000 a_1^6 a_2^4 a_3^8 Y T^5 +$
 $1166086032477585408000 a_1^6 a_2^2 a_3^{10} Y T^5 + 6219125506547122176000 a_1^4 a_2^6 a_3^8 Y T^5 - 74625906078565466112000 a_1^4 a_2^4 a_3^{10} Y T^5 +$
 $167916388676772298752000 a_1^2 a_2^6 a_3^{10} Y T^5 - 245693847172231987200 a_1^8 a_2^2 a_3^8 Y T^5 - 655183592459285299200 a_1^6 a_2^6 a_3^6 Y T^5 +$
 $2948326166066783846400 a_1^6 a_2^4 a_3^8 Y T^5 + 3685407707583479808000 a_1^6 a_2^2 a_3^{10} Y T^5 + 19655507773778558976000 a_1^4 a_2^6 a_3^8 Y T^5 -$
 $88449784982003515392000 a_1^4 a_2^4 a_3^{10} Y T^5 + 26207343698371411968000 a_1^2 a_2^{10} a_3^6 Y T^5 - 235866093285342707712000 a_1^2 a_2^8 a_3^8 Y T^5 +$
 $530698709892021092352000 a_1^2 a_2^6 a_3^{10} Y T^5 + 8292167342062829568000 a_1^2 a_2^{10} a_3^6 Y T^5 + 4094897452870533120 a_1^{10} a_2^2 a_3^6 Y T^5 -$
 $2798606477942049792000 a_1^8 a_2^2 a_3^8 Y T^5 - 166829155487813016000 a_1^{10} a_2^2 a_3^6 Y T^5 + 1000974932923908096000 a_1^8 a_2^2 a_3^8 Y T^5 +$
 $2669266487797088256000 a_1^6 a_2^6 a_3^6 Y T^5 - 12011699195086897152000 a_1^6 a_2^4 a_3^8 Y T^5 - 15014623993858621440000 a_1^6 a_2^2 a_3^{10} Y T^5 -$
 $80077994633912647680000 a_1^4 a_2^6 a_3^8 Y T^5 + 187682799923232768000 a_1^{10} a_2^2 a_3^6 Y T^2 - 1126096799539396608000 a_1^8 a_2^2 a_3^8 Y T^2 -$
 $3002924798771724288000 a_1^6 a_2^6 a_3^6 Y T^2 + 135131615944727529296000 a_1^6 a_2^4 a_3^8 Y T^2 + 1689145199309094912000 a_1^6 a_2^2 a_3^{10} Y T^2 +$
 $90087743963151728640000 a_1^4 a_2^6 a_3^8 Y T^2 - 405394847834182778880000 a_1^4 a_2^4 a_3^{10} Y T^2 + 120116991950868971520000 a_1^2 a_2^{10} a_3^6 Y T^2 -$
 $1081052927557820743680000 a_1^2 a_2^8 a_3^8 Y T^2 + 2432369087005096673280000 a_1^2 a_2^6 a_3^{10} Y T^2 - 4913876943446397440000 a_1^2 a_2^4 a_3^{10} Y T^2 +$
 $442248924910017576960000 a_1^2 a_2^2 a_3^8 Y T^2 - 76779327241322496000 a_1^{10} a_2^2 a_3^6 Y T^2 + 460675963447934976000 a_1^8 a_2^2 a_3^8 Y T^2 +$
 $1228469235861159936000 a_1^6 a_2^6 a_3^6 Y T^2 - 552811156137521972000 a_1^6 a_2^4 a_3^8 Y T^2 - 6910139451719024640000 a_1^6 a_2^2 a_3^{10} Y T^2 -$
 $36854077075834798080000 a_1^4 a_2^6 a_3^8 Y T^2 + 165843346841256591360000 a_1^4 a_2^4 a_3^{10} Y T^2 - 995060081047539548160000 a_1^2 a_2^6 a_3^{10} Y T^2 +$
 $358213251609133056000 a_1^6 a_2^6 a_3^6 Y^2 - 1611959632241098752000 a_1^6 a_2^4 a_3^8 Y^2 - 2238832822557081600 a_1^{10} a_2^2 a_3^6 Y^2 +$
 $134329969353424896000 a_1^8 a_2^2 a_3^8 Y^2 - 2014949540301373440000 a_1^6 a_2^2 a_3^{10} Y^2 - 10746397548273991680000 a_1^4 a_2^6 a_3^8 Y^2 +$
 $48358788967232962560000 a_1^4 a_2^4 a_3^{10} Y^2 - 14328530064365322240000 a_1^2 a_2^{10} a_3^6 Y^2 + 128956770579287900160000 a_1^2 a_2^8 a_3^8 Y^2 -$
 $58213251609133056000 a_1^2 a_2^6 a_3^{10} Y^2 + 5560971849572767200 a_1^{10} a_2^2 a_3^6 Y^4 - 333658310974636032000 a_1^8 a_2^2 a_3^8 Y^4 -$
 $889755495932362752000 a_1^6 a_2^6 a_3^6 Y^4 + 4003899731695632384000 a_1^6 a_2^4 a_3^8 Y^4 + 5004874664619540480000 a_1^6 a_2^2 a_3^{10} Y^4 +$
 $26692664877970882560000 a_1^4 a_2^6 a_3^8 Y^4 - 120116991950868971520000 a_1^4 a_2^4 a_3^{10} Y^4 + 35590219837294510080000 a_1^2 a_2^{10} a_3^6 Y^4 -$
 $320311978535650590720000 a_1^2 a_2^8 a_3^8 Y^4 + 720701951705213829120000 a_1^2 a_2^6 a_3^{10} Y^4 + 433224817852416000 a_1^3 a_2^2 a_3^8 c_1 T -$
 $77035107872931840000 i a_1^2 a_2^6 a_3^5 c_3 T - 28888165452349440000 i a_1^2 a_2^5 a_3^6 c_2 T + 129996744535572480000 i a_1^2 a_2^3 a_3^8 c_2 T +$
 $534966026895360000 i a_1^6 a_2^2 a_3^5 d_3 T + 144440827261747200 i a_1^5 a_2^2 a_3^6 d_1 T - 12839184645488640000 i a_1^4 a_2^4 a_3^5 d_3 T -$
 $4333224817852416000 i a_1^3 a_2^2 a_3^8 d_1 T + 77035107872931840000 i a_1^2 a_2^6 a_3^5 d_3 T - 11555266180939776000 i a_1^2 a_2^6 d_1 T +$
 $51998697814228992000 i a_1^2 a_2^4 a_3^8 d_1 T + 43678906163952353280000 i a_1^4 a_2^6 a_3^8 Y T + 17832200896512000 i a_1^8 a_2^2 a_3^3 c_3 T -$
 $213986410758144000 i a_1^6 a_2^4 a_3^3 c_3 T + 361102068154368000 i a_1^6 a_2 a_3^6 c_2 T - 1426576071720960000 i a_1^4 a_2^6 a_3^3 c_3 T -$
 $10833062044631040000 i a_1^4 a_2 a_3^8 c_2 T + 17118912860651520000 i a_1^2 a_2^8 a_3^3 c_3 T + 11555266180939776000 i a_1^2 a_2^6 a_3^6 c_1 T +$
 $28888165452349440000 i a_1^2 a_2^5 a_3^6 d_2 T - 129996744535572480000 i a_1^2 a_2^3 a_3^8 d_2 T + 9099772117490073600 i a_1^{10} a_2^2 a_3^6 Y T -$
 $545986327049404416000 i a_1^8 a_2^2 a_3^8 Y T - 14559635387984117760000 i a_1^6 a_2^6 a_3^6 Y T + 6551835924592852992000 i a_1^6 a_2^4 a_3^8 Y T +$
 $8189794905741066240000 i a_1^6 a_2^2 a_3^{10} Y T + 10833062044631040000 i a_1^4 a_2 a_3^8 d_2 T - 17118912860651520000 i a_1^2 a_2^8 a_3^3 d_3 T -$
 $51998697814228992000 i a_1^2 a_2^4 a_3^8 c_1 T - 196555077737785589760000 i a_1^4 a_2^6 a_3^8 Y T + 58238541551936471040000 i a_1^2 a_2^{10} a_3^6 Y T -$
 $524146873967428239360000 i a_1^2 a_2^8 a_3^8 Y T + 1179330466426713538560000 i a_1^2 a_2^6 a_3^{10} Y T - 17832200896512000 i a_1^8 a_2^2 a_3^3 d_3 T +$
 $213986410758144000 i a_1^6 a_2^4 a_3^3 d_3 T - 361102068154368000 i a_1^6 a_2 a_3^6 d_2 T + 1426576071720960000 i a_1^4 a_2^6 a_3^3 d_3 T +$
 $17118912860651520000 i a_1^4 a_2^4 a_3^5 Y d_3 + 5777633090469888000 i a_1^4 a_2^2 a_3^8 Y d_1 - 102713477163909120000 i a_1^2 a_2^6 a_3^5 Y d_3 -$
 $38517553936465920000 i a_1^2 a_2^5 a_3^6 Y d_2 + 173328992714096640000 i a_1^2 a_2^3 a_3^8 Y d_2 - 713288035860480000 i a_1^6 a_2^2 a_3^5 Y d_3 -$
 $192587769682329600 i a_1^5 a_2^2 a_3^6 Y d_1 - 23776267862016000 i a_1^8 a_2^2 a_3^3 Y c_3 + 285315214344192000 i a_1^6 a_2^4 a_3^3 Y c_3 -$
 $481469424205824000 i a_1^6 a_2 a_3^6 Y c_2 + 1902101428961280000 i a_1^4 a_2^6 a_3^3 Y c_3 + 14444082726174720000 i a_1^4 a_2 a_3^8 Y c_2 -$
 $22825217147535360000 i a_1^2 a_2^8 a_3^3 Y c_3 - 15407021574586368000 i a_1^2 a_2^6 a_3^6 Y c_1 + 69331597085638656000 i a_1^2 a_2^4 a_3^8 Y c_1 +$
 $713288035860480000 i a_1^6 a_2^2 a_3^5 Y c_3 + 192587769682329600 i a_1^5 a_2^2 a_3^6 Y c_1 - 17118912860651520000 i a_1^4 a_2^4 a_3^5 Y c_3 -$
 $5777633090469888000 i a_1^3 a_2^2 a_3^8 Y c_1 + 102713477163909120000 i a_1^2 a_2^6 a_3^5 Y c_3 + 38517553936465920000 i a_1^2 a_2^5 a_3^6 Y c_2 -$
 $173328992714096640000 i a_1^2 a_2^3 a_3^8 Y c_2 + 23776267862016000 i a_1^8 a_2^2 a_3^3 Y d_3 - 285315214344192000 i a_1^6 a_2^4 a_3^3 Y d_3 +$
 $481469424205824000 i a_1^6 a_2 a_3^6 Y d_2 - 1902101428961280000 i a_1^4 a_2^6 a_3^3 Y d_3 - 14444082726174720000 i a_1^4 a_2 a_3^8 Y d_2 +$

$393110155475571179520000 a_1^2 a_2^8 a_3^8 Y T^3 + 56158593639367311360000 a_1^2 a_2^6 a_3^{10} Y T - 884497849820035153920000 a_1^2 a_2^6 a_3^{10} Y T^3 +$
 $433322481785241600 a_1^{10} a_2^2 a_3^6 Y T - 6824829088117555200 a_1^{10} a_2^2 a_3^6 Y T^3 - 25999348907114496000 a_1^8 a_2^2 a_3^8 Y T +$
 $409489745287053312000 a_1^8 a_2^2 a_3^8 Y T^3 - 69331597085638656000 a_1^6 a_2^6 a_3^6 Y T + 1091972654098808820000 a_1^6 a_2^6 a_3^6 Y T^3 +$
 $311992186885373952000 a_1^6 a_2^4 a_3^8 Y T - 491387694344639744000 a_1^6 a_2^4 a_3^8 Y T^3 + 38999023366071440000 a_1^6 a_2^2 a_3^{10} Y T +$
 $6142346179305799680000 a_1^6 a_2^2 a_3^{10} Y T^3 + 2079947912569159680000 a_1^4 a_2^6 a_3^8 Y T + 2653493549460105461760000 a_1^4 a_2^6 a_3^8 Y T^3 +$
 $3455069725859512320 a_1^{10} a_2^2 a_3^6 Y T^5 - 207304183551570739200 a_1^8 a_2^2 a_3^8 Y T^5 - 235866093285342707712000 a_1^4 a_2^4 a_3^{10} Y^5 T +$
 $69886249862323765248000 a_1^2 a_2^{10} a_3^6 Y^5 T - 628976248760913887232000 a_1^2 a_2^8 a_3^8 Y^5 T + 1415196559712056246272000 a_1^2 a_2^6 a_3^{10} Y^5 T +$
 $20474487264352665600 a_1^{10} a_2^2 a_3^6 Y^3 T^3 - 1228469235861159936000 a_1^8 a_2^2 a_3^8 Y^3 T^3 - 3275917962296426496000 a_1^6 a_2^6 a_3^6 Y^3 T^3 -$
 $552811156137521971200 a_1^6 a_2^6 a_3^6 Y T^5 + 2487650202618848870400 a_1^6 a_2^4 a_3^8 Y T^5 + 3109562753273561088000 a_1^6 a_2^2 a_3^{10} Y T^5 +$
 $1658433468125659136000 a_1^4 a_2^6 a_3^8 Y T^5 - 802449040343040000 a_1^6 a_2^2 a_3^5 c_3 T^2 - 216661240892620800 a_1^5 a_2^2 a_3^5 c_1 T^2 +$
 $19258776968232960000 a_1^4 a_2^4 a_3^5 c_3 T^2 + 6499837226778624000 a_1^3 a_2^2 a_3^8 c_1 T^2 - 115552661809397760000 a_1^2 a_2^6 a_3^5 c_3 T^2 -$
 $4333224817852416000 a_1^2 a_2^5 a_3^6 c_2 T^2 + 194995116803358720000 a_1^2 a_2^3 a_3^8 c_2 T^2 + 802449040343040000 a_1^3 a_2^2 a_3^5 c_3 T^2 +$
 $216661240892620800 a_1^5 a_2^2 a_3^6 d_1 T^2 - 19258776968232960000 a_1^4 a_2^4 a_3^5 d_3 T^2 - 6499837226778624000 a_1^3 a_2^2 a_3^8 d_1 T^2 +$
 $115552661809397760000 a_1^2 a_2^6 a_3^5 d_3 T^2 + 1474163083033919232000 a_1^6 a_2^4 a_3^8 Y^3 T^3 + 18427038537917399040000 a_1^6 a_2^2 a_3^{10} Y^3 T^3 +$
 $9827753868892794880000 a_1^4 a_2^6 a_3^8 Y^3 T^3 - 442248924910017576960000 a_1^4 a_2^4 a_3^8 Y^3 T^3 + 131036718491857059840000 a_1^2 a_2^{10} a_3^6 Y^3 T^3 -$
 $1179330466426713538560000 a_1^2 a_2^8 a_3^8 Y^3 T^3 - 1663958330055327744000 a_1^6 a_2^4 a_3^8 Y^2 - 11769252591697920000 a_1^4 a_2 a_3^8 d_2 +$
 $18598325083176960000 a_1^2 a_2^8 a_3^3 d_3 + 12553869431144448000 a_1^2 a_2^6 a_3^5 d_1 - 56492412440150016000 a_1 a_2^4 a_3^8 d_1 -$
 $11093055533702184960000 a_1^4 a_2^6 a_3^8 Y^2 - 18598325083176960000 a_1^2 a_2^8 a_3^3 c_3 - 12553869431144448000 a_1^2 a_2^6 a_3^5 c_1 +$
 $56492412440150016000 a_1 a_2^4 a_3^8 c_1 - 19373255294976000 a_1^8 a_2^2 a_3^3 c_3 + 232479063539712000 a_1^6 a_2^4 a_3^3 c_3 -$
 $392308419723264000 a_1^6 a_2 a_3^5 c_2 + 1549860423598080000 a_1^4 a_2^6 a_3^3 c_3 + 11769252591697920000 a_1^4 a_2 a_3^5 c_2 -$
 $581197658849280000 a_1^6 a_2^2 a_3^5 d_3 - 156923367889305600 a_1^5 a_2^2 a_3^6 d_1 + 13948743812382720000 a_1^4 a_2^4 a_3^5 d_3 +$
 $4707701036679168000 a_1^3 a_2^2 a_3^8 d_1 - 83692462874296320000 a_1^2 a_2^6 a_3^5 d_3 - 31384673577861120000 a_1^2 a_2^5 a_3^6 d_2 +$
 $141231031100375040000 a_1^2 a_2^3 a_3^8 d_2 + 581197658849280000 a_1^6 a_2^2 a_3^5 c_3 + 156923367889305600 a_1^5 a_2^2 a_3^6 c_1 -$
 $13948743812382720000 a_1^4 a_2^4 a_3^5 c_3 - 4707701036679168000 a_1^3 a_2^2 a_3^8 c_1 + 83692462874296320000 a_1^2 a_2^6 a_3^5 c_3 +$
 $31384673577861120000 a_1^2 a_2^5 a_3^6 c_2 - 141231031100375040000 a_1^2 a_2^3 a_3^8 c_2 - 310956275327356108800 a_1^6 a_2^4 a_3^3 d_3 +$
 $1151689908619837440000 a_1^6 a_2^2 a_3^{10} T^4 + 19373255294976000 a_1^8 a_2^2 a_3^3 d_3 - 232479063539712000 a_1^6 a_2^4 a_3^3 d_3 +$
 $392308419723264000 a_1^6 a_2 a_3^5 d_2 - 1549860423598080000 a_1^4 a_2^6 a_3^3 d_3 + 49918749901659832320000 a_1^4 a_2^4 a_3^{10} Y^2 -$
 $14790740711602913280000 a_1^2 a_2^{10} a_3^6 Y^2 + 13311666640426219520000 a_1^2 a_2^8 a_3^8 Y^2 - 29951249940958993920000 a_1^2 a_2^6 a_3^{10} Y^2 +$
 $4044343163328921600 a_1^{10} a_2^2 a_3^6 Y^4 - 242660589799735296000 a_1^8 a_2^2 a_3^8 Y^4 - 647094906132627456000 a_1^6 a_2^4 a_3^6 Y^4 +$
 $2911927077596823552000 a_1^6 a_2^4 a_3^8 Y^4 + 363990846996029440000 a_1^6 a_2^2 a_3^{10} Y^4 + 19412847183978823680000 a_1^4 a_2^6 a_3^8 Y^4 -$
 $87357812327904706560000 a_1^4 a_2^4 a_3^{10} Y^4 + 2588379624530598240000 a_1^2 a_2^{10} a_3^6 Y^4 - 232954166207745884160000 a_1^2 a_2^8 a_3^8 Y^4 +$
 $524146873697428239360000 a_1^2 a_2^6 a_3^{10} Y^4 - 24266058979973529600 a_1^{10} a_2^2 a_3^6 Y^6 + 145596353879841177600 a_1^8 a_2^2 a_3^8 Y^6 +$
 $388256943679576473600 a_1^6 a_2^6 a_3^6 Y^6 - 1747156246558094131200 a_1^6 a_2^4 a_3^8 Y^6 - 2183945308197617664000 a_1^6 a_2^2 a_3^{10} Y^6 -$
 $11647708310387294208000 a_1^4 a_2^6 a_3^8 Y^6 + 52414687369742823936000 a_1^4 a_2^4 a_3^{10} Y^6 - 15530277747183058944000 a_1^2 a_2^{10} a_3^6 Y^6 +$
 $139772499724647530496000 a_1^2 a_2^8 a_3^8 Y^6 - 314488124380456943616000 a_1^2 a_2^6 a_3^{10} Y^6 - 2073041835515707392000 a_1^4 a_2^6 a_3^8 T^6 -$
 $388695344159195136000 a_1^6 a_2^2 a_3^{10} T^6 + 6142346179305799680000 a_1^4 a_2^6 a_3^8 T^4 - 2079947912569159680000 a_1^6 a_2^2 a_3^{10} Y^2 -$
 $27640557806876098560000 a_1^4 a_2^4 a_3^{10} T^4 + 9328688259820683264000 a_1^4 a_2^4 a_3^{10} T^6 + 8189794905741066240000 a_1^2 a_2^{10} a_3^6 T^4 -$
 $2764055780687609856000 a_1^2 a_2^{10} a_3^6 T^6 - 73708154151669596160000 a_1^2 a_2^8 a_3^8 T^4 + 24876502026188488704000 a_1^2 a_2^8 a_3^8 T^6 +$
 $16584334681256591360000 a_1^2 a_2^6 a_3^{10} T^4 - 55972129558924099584000 a_1^2 a_2^6 a_3^{10} T^6 + 1279655454022041600 a_1^{10} a_2^2 a_3^6 T^4 -$
 $431883715732439040 a_1^{10} a_2^2 a_3^6 T^6 - 76779327241322496000 a_1^8 a_2^2 a_3^8 T^4 + 25913022943946342400 a_1^8 a_2^2 a_3^8 T^6 -$
 $204744872643526656000 a_1^6 a_2^6 a_3^6 T^4 + 69101394517190246400 a_1^6 a_2^6 a_3^6 T^6 + 921351926895869952000 a_1^6 a_2^4 a_3^8 T^4 -$
 $2311053236187955200 a_1^{10} a_2^2 a_3^6 Y^2 + 138663194171277312000 a_1^8 a_2^2 a_3^8 Y^2 + 369768517790072832000 a_1^6 a_2^6 a_3^6 Y^2 -$
 $54842376609446400000 a_1^6 a_2^2 a_3^{10} T^3 + 950144174611365888000 a_1^6 a_2^2 a_3^{10} T^5 - 292492675205038080000 a_1^4 a_2^6 a_3^8 T^3 +$
 $5067435597927284736000 a_1^4 a_2^6 a_3^8 T^5 + 13162170384226713600000 a_1^4 a_2^4 a_3^{10} T^3 - 22803460190672781312000 a_1^4 a_2^4 a_3^{10} T^5 -$
 $3899902336067174400000 a_1^2 a_2^{10} a_3^6 T^3 + 6756580797236379648000 a_1^2 a_2^{10} a_3^6 T^5 + 35099121024604569600000 a_1^2 a_2^8 a_3^8 T^3 -$
 $60809227175127416832000 a_1^2 a_2^8 a_3^8 T^5 - 4387390128075571200000 a_1^6 a_2^4 a_3^8 T^3 + 760115339689092710400 a_1^6 a_2^4 a_3^8 T^5 -$
 $609359740010496000 a_1^{10} a_2^2 a_3^6 T^3 + 1055715749568184320 a_1^{10} a_2^2 a_3^6 T^5 + 36561584400629760000 a_1^8 a_2^2 a_3^8 T^3 -$
 $63342944974001059200 a_1^8 a_2^2 a_3^8 T^5 + 97497558401679360000 a_1^6 a_2^6 a_3^6 T^3 - 168914519930909491200 a_1^6 a_2^6 a_3^6 T^5 -$
 $78973022305360281600000 a_1^2 a_2^6 a_3^{10} T^3 + 136820761144036687872000 a_1^2 a_2^6 a_3^{10} T^5 - 3081404314951727360000 a_1^2 a_2^6 a_3^5 Y d_3 T -$
 $7132803586048000 a_1^8 a_2^2 a_3^3 Y c_3 T + 855945643032576000 a_1^6 a_2^4 a_3^3 Y c_3 T - 1444408272617472000 a_1^6 a_2 a_3^6 Y c_2 T +$
 $5706304286883840000 a_1^4 a_2^6 a_3^3 Y c_3 T + 43332248178524160000 a_1^4 a_2 a_3^8 Y c_2 T - 68475651442606080000 a_1^2 a_2^8 a_3^3 Y c_3 T -$
 $46221064723759104000 a_1 a_2^6 a_3^6 Y c_1 T + 207994791256915968000 a_1 a_2^4 a_3^8 Y c_1 T - 519986978142289920000 a_1^2 a_2^3 a_3^8 Y c_2 T +$
 $7132803586048000 a_1^8 a_2^2 a_3^3 Y d_3 T - 855945643032576000 a_1^6 a_2^4 a_3^3 Y d_3 T + 1444408272617472000 a_1^6 a_2 a_3^6 Y d_2 T -$
 $5706304286883840000 a_1^4 a_2^6 a_3^3 Y d_3 T - 43332248178524160000 a_1^4 a_2 a_3^8 Y d_2 T + 68475651442606080000 a_1^2 a_2^8 a_3^3 Y d_3 T +$
 $46221064723759104000 a_1 a_2^6 a_3^6 Y d_1 T - 207994791256915968000 a_1 a_2^4 a_3^8 Y d_1 T + 2139864107581440000 a_1^6 a_2^2 a_3^5 Y c_3 T +$
 $577763309046988800 a_1^5 a_2^2 a_3^6 Y c_1 T - 51356738581954560000 a_1^4 a_2^4 a_3^5 Y c_3 T - 17332899271409664000 a_1^3 a_2^2 a_3^8 Y c_1 T +$
 $308140431491727360000 a_1^2 a_2^6 a_3^5 Y c_3 T + 115552661809397760000 a_1^2 a_2^5 a_3^6 Y c_2 T - 2139864107581440000 a_1^6 a_2^2 a_3^5 Y d_3 T -$
 $577763309046988800 a_1^5 a_2^2 a_3^6 Y d_1 T + 51356738581954560000 a_1^4 a_2^4 a_3^5 Y d_3 T + 17332899271409664000 a_1^3 a_2^2 a_3^8 Y d_1 T -$
 $115552661809397760000 a_1^2 a_2^5 a_3^6 Y d_2 T + 519986978142289920000 a_1^2 a_2^3 a_3^8 Y d_2 T + 47552535724032000 a_1^8 a_2^2 a_3^3 d_3 T -$
 $67164984676712448000 a_1^{10} a_2^2 a_3^6 Y^2 T + 402989908060274688000 a_1^8 a_2^2 a_3^8 Y^2 T + 1074639754827399168000 a_1^6 a_2^6 a_3^6 Y^2 T -$
 $4835878896723296256000 a_1^6 a_2^4 a_3^8 Y^2 T - 6044848620904120320000 a_1^6 a_2^2 a_3^{10} Y^2 T - 32239192644821975040000 a_1^4 a_2^6 a_3^8 Y^2 T +$
 $145076366901698887680000 a_1^4 a_2^4 a_3^{10} Y^2 T - 42985590193095966720000 a_1^2 a_2^{10} a_3^6 Y^2 T + 386870311737863700480000 a_1^2 a_2^8 a_3^8 Y^2 T -$
 $870458201410193326080000 a_1^2 a_2^6 a_3^{10} Y^2 T - 47552535724032000 a_1^8 a_2^2 a_3^3 c_3 T + 570630428688384000 a_1^6 a_2^4 a_3^3 c_3 T -$
 $962938848411648000 a_1^6 a_2 a_3^6 c_2 T + 3804202857922560000 a_1^4 a_2^6 a_3^3 c_3 T + 28888165452349440000 a_1^4 a_2 a_3^8 c_2 T -$
 $4565043429507020000 a_1^2 a_2^8 a_3^3 c_3 T - 30814043149172736000 a_1^2 a_2^6 a_3^5 c_1 T + 138663194171277312000 a_1^2 a_2^4 a_3^5 c_1 T +$
 $1426576071720960000 a_1^6 a_2^2 a_3^5 c_3 T + 385175539364659200 a_1^5 a_2^2 a_3^6 c_1 T - 34237825721303040000 a_1^4 a_2^4 a_3^5 c_3 T -$
 $11555266180939776000 a_1^3 a_2^2 a_3^8 c_1 T + 205426954327818240000 a_1^2 a_2^6 a_3^5 c_3 T + 77035107872931840000 a_1^2 a_2^5 a_3^6 c_2 T -$
 $34665798528193280000 a_1^2 a_2^3 a_3^8 c_2 T - 1426576071720960000 a_1^6 a_2^2 a_3^5 d_3 T - 385175539364659200 a_1^5 a_2^2 a_3^6 d_1 T +$
 $34237825721303040000 a_1^4 a_2^4 a_3^5 d_3 T + 11555266180939776000 a_1^3 a_2^2 a_3^8 d_1 T - 570630428688384000 a_1^6 a_2^4 a_3^3 d_3 T +$
 $962938848411648000 a_1^6 a_2 a_3^6 d_2 T - 3804202857922560000 a_1^4 a_2^6 a_3^3 d_3 T - 28888165452349440000 a_1^4 a_2 a_3^8 d_2 T +$

2567836929097728000 a1^3 a2^2 a3^8 Y^2 c1 - 45650434295070720000 a1^2 a2^6 a3^5 Y^2 c3 - 17118912860651520000 a1^2 a2^5 a3^6 Y^2 c2 + 77035107872931840000 a1^2 a2^3 a3^8 Y^2 c2 - 4575885407652151296000 a1^2 a2^8 a3^8 Y^8 + 10295742167217340416000 a1^2 a2^6 a3^10 Y^8 + 2311053236187955200 a1^10 a2^2 a3^6 Y^4 - 138663194171277312000 a1^8 a2^2 a3^8 Y^4 - 369768517790072832000 a1^6 a2^6 a3^6 Y^4 + 1663958330055327744000 a1^6 a2^4 a3^8 Y^4 + 207994791256915968000 a1^6 a2^2 a3^10 Y^4 + 11093055533702184960000 a1^4 a2^6 a3^8 Y^4 - 49918749901659832320000 a1^4 a2^4 a3^10 Y^4 + 14790740711602913280000 a1^2 a2^10 a3^6 Y^4 - 133116666404426219520000 a1^2 a2^8 a3^8 Y^4 + 299512499409958993920000 a1^2 a2^6 a3^10 Y^4 + 64195993222744320000 a1^4 a2 a3^8 Y^2 d2 - 10144540954460160000 a1^2 a2^8 a3^3 Y^2 d3 - 6847565144260608000 a1 a2^6 a3^6 Y^2 d1 + 30814043149172736000 a1 a2^4 a3^8 Y^2 d1 + 317016904826880000 a1^6 a2^2 a3^5 Y^2 d3 + 85594564303257600 a1^5 a2^2 a3^6 Y^2 d1 - 7608405715845120000 a1^4 a2^4 a3^5 Y^2 d3 - 2567836929097728000 a1^3 a2^2 a3^8 Y^2 d1 + 4565043429507072000 a1^2 a2^6 a3^5 Y^2 d3 + 17118912860651520000 a1^2 a2^5 a3^6 Y^2 d2 - 77035107872931840000 a1^2 a2^3 a3^8 Y^2 d2 + 79442454993960960 a1^10 a2^2 a3^6 Y^8 - 4766547299637657600 a1^8 a2^2 a3^8 Y^8 - 12710792799033753600 a1^6 a2^6 a3^6 Y^8 + 57198567595651891200 a1^6 a2^4 a3^8 Y^8 + 71498209494564864000 a1^6 a2^2 a3^10 Y^8 + 381323783971012608000 a1^4 a2^6 a3^8 Y^8 - 1715957027869556736000 a1^4 a2^4 a3^10 Y^8 + 508431711961350144000 a1^2 a2^10 a3^6 Y^8 - 10567230160896000 a1^8 a2^2 a3^3 Y^2 d3 + 126806761930752000 a1^6 a2^4 a3^3 Y^2 d3 - 213986410758144000 a1^6 a2^3 a3^6 Y^2 d2 + 845378412871680000 a1^4 a2^6 a3^3 Y^2 d3 - 32499186133893120000 a1^2 a2^5 a3^6 Y^2 d2 T^3 + 146246337602519040000 a1^2 a2^3 a3^8 Y^2 d2 T^3 - 20061226005890000 a1^8 a2^2 a3^3 Y^2 d3 T^3 - 14444082726174720000 a1^4 a2^4 a3^5 Y^2 d3 T^3 - 4874877920083968000 a1^3 a2^2 a3^8 Y^2 d1 T^3 + 86664496357048320000 a1^2 a2^6 a3^5 Y^2 d3 T^3 + 32499186133893120000 a1^2 a2^5 a3^6 Y^2 d2 T^3 - 146246337602519040000 a1^2 a2^3 a3^8 Y^2 d2 T^3 + 58498535041007616000 a1 a2^4 a3^8 Y^2 d1 T^3 + 20061226005890000 a1^8 a2^2 a3^3 Y^2 d3 T^3 - 240734712102912000 a1^6 a2^4 a3^3 Y^2 d3 T^3 + 406239826673664000 a1^6 a2^2 a3^6 Y^2 d2 T^3 - 1604898080686080000 a1^4 a2^6 a3^3 Y^2 d3 T^3 - 12187194800209920000 a1^4 a2 a3^8 Y^2 d2 T^3 + 19258776968232960000 a1^2 a2^8 a3^3 Y^2 d3 T^3 + 12999674453557248000 a1 a2^6 a3^6 Y^2 c1 T^3 - 58498535041007616000 a1 a2^4 a3^8 Y^2 c1 T^3 - 601836780257280000 a1 a2^2 a3^5 Y^2 d3 T^3 - 1624959306694656000 a1^5 a2^2 a3^3 Y^2 c1 T^3 + 14444082726174720000 a1^4 a2^4 a3^5 Y^2 c3 T^3 + 4874877920083968000 a1^3 a2^2 a3^8 Y^2 c1 T^3 - 86664496357048320000 a1^2 a2^6 a3^5 Y^2 c3 T^3 + 240734712102912000 a1^6 a2^4 a3^3 Y^2 d3 T^3 - 406239826673664000 a1^6 a2^2 a3^6 Y^2 d2 T^3 + 1604898080686080000 a1^4 a2^6 a3^3 Y^2 d3 T^3 - 19258776968232960000 a1^2 a2^8 a3^3 Y^2 d3 T^3 - 12999674453557248000 a1 a2^6 a3^6 Y^2 d1 T^3 + 601836780257280000 a1^6 a2^2 a3^3 Y^2 d3 T^3 + 1624959306694656000 a1^5 a2^2 a3^6 Y^2 d1 T^3 + 12187194800209920000 a1^4 a2 a3^8 Y^2 d2 T^3 + 80244904343040000 a1^6 a2^2 a3^5 Y^3 c3 T^2 + 216661240892620800 a1^5 a2^2 a3^6 Y^3 c1 T^2 - 19258776968232960000 a1^4 a2^4 a3^5 Y^3 c3 T^2 - 90275517038592000 a1^6 a2^4 a3^3 Y d3 T^4 + 152339935002624000 a1^6 a2 a3^6 Y d2 T^4 - 601836780257280000 a1^4 a2^6 a3^3 Y d3 T^4 - 4570198050078720000 a1^4 a2 a3^8 Y d2 T^4 + 32692368310272000 a1^8 a2^2 a3^3 Y c3 T^2 - 392308419723264000 a1^6 a2^4 a3^3 Y c3 T^2 + 66202458283008000 a1^6 a2 a3^6 Y c2 T^2 - 2615389464821760000 a1^4 a2^6 a3^3 Y c3 T^2 - 19860613748490240000 a1^2 a2^3 a3^8 Y c2 T^2 + 31384673577861120000 a1^2 a2^8 a3^3 Y c3 T^2 + 21184654665056256000 a1^2 a2^6 a3^6 Y c1 T^2 - 95330945992753152000 a1 a2^4 a3^5 Y c1 T^2 - 26748301344768000 a1^8 a2^2 a3^3 Y^3 c3 T^2 - 152339935002624000 a1^6 a2 a3^6 Y c2 T^4 + 601836780257280000 a1^4 a2^6 a3^3 Y c3 T^4 + 4570198050078720000 a1^4 a2 a3^8 Y c2 T^4 - 7222041363087360000 a1^2 a2^8 a3^3 Y c3 T^4 - 4874877920083968000 a1 a2^6 a3^6 Y c1 T^4 + 21936950640377856000 a1 a2^4 a3^8 Y c1 T^4 - 6499837226778624000 a1^3 a2^2 a3^8 Y^3 c1 T^2 + 609359740010496000 a1^5 a2^2 a3^6 Y c1 T^4 - 5416531022315520000 a1^4 a2^4 a3^5 Y c3 T^4 - 1828079220031488000 a1^3 a2^2 a3^8 Y c1 T^4 + 32499186133893120000 a1 a2^6 a3^3 Y c3 T^4 + 12187194800209920000 a1^2 a2^5 a3^6 Y c2 T^4 - 54842376600944640000 a1^2 a2^3 a3^8 Y c2 T^4 + 90275517038592000 a1^6 a2^4 a3^3 Y c3 T^4 + 238327364991882880000 a1^2 a2^3 a3^8 Y c2 T^4 - 2139864107581440000 a1^4 a2^6 a3^3 Y^3 d3 T^2 - 16249593066946560000 a1^4 a2 a3^8 Y^3 d2 T^2 + 25678369290977280000 a1^2 a2^8 a3^3 Y^3 d3 T^2 + 17332899271409664000 a1 a2^6 a3^6 Y^3 d1 T^2 - 7998046721343488000 a1 a2^4 a3^5 Y^3 d3 T^2 - 32692368310272000 a1^8 a2^2 a3^3 Y d3 T^2 + 392308419723264000 a1^6 a2^4 a3^3 Y d3 T^2 - 662024058283008000 a1^6 a2 a3^6 Y d3 T^2 + 7222041363087360000 a1^2 a2^8 a3^3 Y d3 T^4 + 4874877920083968000 a1 a2^6 a3^6 Y d1 T^4 - 21936950640377856000 a1 a2^4 a3^8 Y d1 T^4 + 141231031100375040000 a1^2 a2^6 a3^5 Y d3 T^2 + 52961636662640640000 a1^2 a2^5 a3^6 Y d2 T^2 - 238327364981882880000 a1^2 a2^3 a3^8 Y d2 T^2 + 1828079220031488000 a1^3 a2^2 a3^8 Y d1 T^4 - 32499186133893120000 a1^2 a2^6 a3^5 Y d3 T^4 - 12187194800209920000 a1^2 a2^5 a3^6 Y d2 T^4 + 54842376600944640000 a1^2 a2^3 a3^8 Y d2 T^4 + 320979616137216000 a1^6 a2^4 a3^3 Y^3 c3 T^2 - 5416531022315520000 a1^6 a2 a3^6 Y^3 c2 T^2 + 77998047621343488000 a1 a2^4 a3^8 Y c1 T^2 - 7522959753216000 a1^8 a2^2 a3^3 Y c3 T^4 - 980771049308160000 a1^6 a2^2 a3^5 Y c3 T^2 - 264808183313203200 a1^5 a2^2 a3^6 Y c1 T^2 + 23538505183395840000 a1^4 a2^4 a3^5 Y c3 T^2 + 7944245499396096000 a1^3 a2^2 a3^8 Y c1 T^2 - 141231031100375040000 a1^2 a2^6 a3^5 Y c3 T^2 - 52961636662640640000 a1^2 a2^5 a3^6 Y c2 T^2 - 225688792596480000 a1^6 a2^2 a3^5 Y^2 d3 T^4 - 60935974001049600 a1^5 a2^2 a3^6 Y d1 T^4 + 5416531022315520000 a1^4 a2^4 a3^5 Y d3 T^4 + 980771049308160000 a1^6 a2^2 a3^5 Y d3 T^2 + 264808183313203200 a1^5 a2^2 a3^6 Y d1 T^2 - 23538505183395840000 a1^4 a2^4 a3^5 Y d3 T^2 - 7944245499396096000 a1^3 a2^2 a3^8 Y d1 T^2 - 80244904343040000 a1^6 a2^2 a3^5 Y^3 d3 T^2 - 216661240892620800 a1^5 a2^2 a3^6 Y^3 d1 T^2 + 1925877696823296000 a1^4 a2^4 a3^5 Y^3 d3 T^2 + 7522959753216000 a1^8 a2^2 a3^3 Y d3 T^4 + 2615389464821760000 a1^4 a2^6 a3^3 Y d3 T^2 + 19860613748490240000 a1^4 a2 a3^8 Y d3 T^2 - 31384673577861120000 a1^2 a2^8 a3^3 Y d3 T^2 - 21184654665056256000 a1 a2^6 a3^6 Y d1 T^2 + 95330945992753152000 a1^6 a2^4 a3^3 Y d1 T^2 + 6499837226778624000 a1^3 a2^2 a3^8 Y^3 d1 T^2 - 11552661809397760000 a1^2 a2^6 a3^5 Y^3 d3 T^2 - 43332248178524160000 a1^2 a2^5 a3^6 Y^3 d2 T^2 + 194995116803358720000 a1^2 a2^3 a3^8 Y^3 d2 T^2 + 11552661809397760000 a1^2 a2^6 a3^5 Y^3 c3 T^2 + 43332248178524160000 a1^2 a2^5 a3^6 Y^3 c2 T^2 - 194995116803358720000 a1^2 a2^3 a3^8 Y^3 c2 T^2 + 225688792596480000 a1^6 a2^2 a3^5 Y c3 T^4 + 26480818331320320000 a1^4 a2 a3^8 Y^2 c2 T - 4184623143718160000 a1^2 a2^8 a3^3 Y^2 c3 T - 28246206220075008000 a1 a2^6 a3^6 Y^2 c1 T + 127107927990337536000 a1 a2^4 a3^5 Y^2 c1 T - 534966026895360000 a1^6 a2^2 a3^5 Y^4 c3 T - 144440827261747200 a1^5 a2^2 a3^6 Y^4 c1 T + 12839184645488640000 a1^4 a2^4 a3^5 Y^4 c3 T + 4333224817852416000 a1^3 a2^2 a3^8 Y^4 c1 T - 7703510787293184000 a1^2 a2^6 a3^5 Y^4 c3 T + 1307694732410880000 a1^6 a2^2 a3^5 Y^2 c3 T + 35307757750937600 a1^5 a2^2 a3^6 Y^2 c1 T - 31384673577861120000 a1^4 a2^4 a3^5 Y^2 c3 T - 10592327332528128000 a1^3 a2^2 a3^8 Y^2 c1 T + 18830804167166720000 a1^2 a2^6 a3^5 Y^2 c3 T - 12839184645488640000 a1^4 a2^4 a3^5 Y^4 d3 T - 43332248178524160000 a1^3 a2^2 a3^8 Y^4 d1 T + 77035107872931840000 a1^2 a2^6 a3^5 Y^4 d3 T + 28888165452349440000 a1^2 a2^6 a3^6 Y^4 d2 T - 129996744535572480000 a1^2 a2^3 a3^8 Y^4 d2 T + 4184623143718160000 a1^2 a2^8 a3^3 Y^2 d3 T + 28246206220075008000 a1 a2^6 a3^6 Y^2 d1 T - 127107927990337536000 a1 a2^4 a3^5 Y^2 d1 T + 70615515550187520000 a1^2 a2^5 a3^6 Y^2 d2 T - 317769819975843840000 a1^2 a2^3 a3^8 Y^2 c2 T + 26748301344768000 a1 a2^6 a3^3 Y^3 d3 T^2 - 320979616137216000 a1^6 a2^4 a3^3 Y^3 d3 T^2 + 541653102231552000 a1^6 a2 a3^6 Y^3 d2 T^2 + 2139864107581440000 a1^4 a2^6 a3^3 Y^3 c3 T^2 + 1624959306694656000 a1^4 a2 a3^8 Y^3 c2 T^2 - 25678369290977280000 a1^2 a2^8 a3^3 Y^3 c3 T^2 - 1733289271409664000 a1 a2^6 a3^6 Y^3 c1 T^2 + 10592327332528128000 a1^3 a2^2 a3^8 Y^2 d1 T - 188308041467166720000 a1^2 a2^6 a3^5 Y^2 d3 T - 70615515550187520000 a1^2 a2^5 a3^6 Y^2 d2 T + 317769819975843840000 a1^2 a2^3 a3^8 Y^2 d2 T + 43589824413696000 a1^8 a2^2 a3^3 Y^2 d3 T - 523077892964352000 a1^6 a2^4 a3^3 Y^2 d3 T + 882693944377344000 a1^6 a2 a3^6 Y^2 d2 T - 3487185953095680000 a1^4 a2^6 a3^3 Y^2 d3 T - 26480818331320320000 a1^4 a2 a3^8 Y^2 d2 T - 28888165452349440000 a1^2 a2^5 a3^6 Y^4 c2 T + 129996744535572480000 a1^2 a2^3 a3^8 Y^4 c2 T + 17832200896512000 a1^8 a2^2 a3^3 Y^4 c3 T - 2139864107581440000 a1^6 a2^4 a3^3 Y^4 c3 T + 361102068154368000 a1^6 a2 a3^6 Y^4 c2 T - 1426576071720960000 a1^4 a2^6 a3^3 Y^4 c3 T - 10833062044631040000 a1^4 a2 a3^8 Y^4 c2 T + 17118912860651520000 a1^2 a2^8 a3^3 Y^4 c3 T + 1155266180939776000 a1^2 a2^6 a3^5 Y^4 c1 T - 51998697814228992000 a1 a2 a3^8 Y^4 d2 T - 17118912860651520000 a1^2 a2^8 a3^3 Y^4 d3 T - 1155266180939776000 a1 a2 a3^8 Y^4 d1 T + 51998697814228992000 a1 a2^4 a3^3 Y^4 d1 T - 17832200896512000 a1^8 a2^2 a3^3 Y^4 d3 T + 2139864107581440000 a1^6 a2^4 a3^3 Y^4 d3 T - 361102068154368000 a1^6 a2 a3^6 Y^4 d2 T + 1426576071720960000 a1^4 a2^6 a3^3 Y^4 d3 T +

$43535646720 a_1 a_2^3 a_3^5 T X^5 + 4837294080 Y a_1^3 a_2 a_3^5 X^5 + 107495424 i a_1^5 a_2 a_3^3 X^5 - 9674588160 a_1 a_2^5 a_3^3 T X^5 -$
 $193491763200 i Y a_1 a_2^3 a_3^5 X^4 + 10749542400 a_1 a_2^5 a_3^3 X^4 + 48372940800 Y a_1 a_2^5 a_3^3 T X^4 - 32248627200 Y^2 a_1 a_2^5 a_3^3 X^4 -$
 $134369280 a_1^5 a_2 a_3^3 X^4 - 537477120 i Y a_1^5 a_2 a_3^3 X^4 - 12093235200 i a_1^3 a_2 a_3^5 X^4 T + 16124313600 i Y a_1^2 a_2 a_3^5 X^4 -$
 $48372940800 a_1 a_2^3 a_3^5 X^4 - 18139852800 a_1 a_2^5 a_3^3 T^2 X^4 + 145118822400 i a_1 a_2^3 a_3^5 T X^4 + 403107840 Y a_1^2 a_2 a_3^3 X^4 +$
 $403107840 i a_1^5 a_2 a_3^3 T X^4 + 226748160 a_1^5 a_2 a_3^3 T^2 X^4 - 217678233600 Y a_1 a_2^3 a_3^5 T X^4 - 32248627200 i a_1 a_2^5 a_3^3 X^4 T -$
 $604661760 Y a_1^5 a_2 a_3^3 T X^4 - 12093235200 Y^2 a_1^3 a_2 a_3^3 X^4 + 42998169600 i Y a_1 a_2^5 a_3^3 X^4 + 18139852800 Y a_1^3 a_2 a_3^5 T X^4 +$
 $4031078400 a_1^3 a_2 a_3^3 X^4 - 6802444800 a_1^3 a_2 a_3^3 T^2 X^4 + 145118822400 Y^2 a_1 a_2^3 a_3^5 X^4 + 81629337600 a_1 a_2^3 a_3^5 T^2 X^4 -$
 $537477120 Y^3 a_1^5 a_2 a_3^3 X^3 + 32248627200 a_1 a_2^5 a_3^3 T X^3 + 226748160 a_1^5 a_2 a_3^3 T^3 X^3 + 72559411200 Y a_1 a_2^5 a_3^3 T^2 X^3 +$
 $27209779200 Y a_1^3 a_2 a_3^3 T^2 X^3 - 18139852800 a_1 a_2^5 a_3^3 T^3 X^3 - 96745881600 Y^2 a_1 a_2^5 a_3^3 T X^3 + 48372940800 i Y a_1^3 a_2 a_3^3 T X^3 +$
 $42998169600 Y^3 a_1 a_2^5 a_3^3 X^3 - 48372940800 i a_1 a_2^5 a_3^3 X^3 T^2 + 12093235200 a_1^3 a_2 a_3^5 T X^3 - 64497254400 Y a_1 a_2^5 a_3^3 X^3 +$
 $217678233600 i a_1 a_2^3 a_3^5 T^2 X^3 - 580475289600 i Y a_1 a_2^3 a_3^5 X^3 T + 435356467200 Y^2 a_1 a_2^3 a_3^5 T X^3 + 12093235200 a_1^5 a_2 a_3^3 T X^3 +$
 $16124313600 Y^3 a_1^3 a_2 a_3^3 X^3 - 145118822400 a_1 a_2^5 a_3^3 T X^3 + 386983526400 i Y^2 a_1 a_2^3 a_3^5 X^3 - 906992640 Y a_1^5 a_2 a_3^3 T^2 X^3 -$
 $4031078400 a_1^5 a_2 a_3^3 T X^3 - 326517350400 Y a_1 a_2^3 a_3^5 T^2 X^3 + 290237644800 Y a_1 a_2^3 a_3^5 X^3 - 36279705600 Y^2 a_1^3 a_2 a_3^3 T X^3 +$
 $12899458800 i Y a_1^2 a_2^3 a_3^5 T X^3 - 193491763200 Y^3 a_1 a_2^3 a_3^5 X^3 + 806215680 Y a_1^5 a_2 a_3^3 X^3 + 604661760 i a_1^5 a_2 a_3^3 T^2 X^3 -$
 $16124313600 i Y a_1^5 a_2 a_3^3 X^3 T - 85996339200 i Y^2 a_1 a_2^3 a_3^5 X^3 + 6802444800 a_1^3 a_2 a_3^5 T X^3 - 6802444800 Y a_1^3 a_2 a_3^3 X^3 -$
 $18139852800 i a_1^3 a_2 a_3^3 X^3 T^2 + 1074954240 i Y^2 a_1^5 a_2 a_3^3 X^3 + 81629337600 a_1 a_2^3 a_3^5 T^3 X^3 - 32248627200 i Y^2 a_1^3 a_2 a_3^3 X^3 +$
 $36279705600 a_1 a_2^3 a_3^5 T^2 X^2 + 20407334400 Y a_1^3 a_2 a_3^5 T^3 X^2 - 1074954240 i Y^3 a_1^5 a_2 a_3^3 X^2 - 42998169600 i Y a_1 a_2^5 a_3^3 X^2 -$
 $12093235200 Y^4 a_1^3 a_2 a_3^3 X^2 + 163258675200 i a_1 a_2^3 a_3^5 T^3 X^2 - 163258675200 a_1 a_2^3 a_3^5 T^2 X^2 + 128994508800 Y^2 a_1 a_2^3 a_3^3 X^2 -$
 $580475289600 Y^2 a_1 a_2^3 a_3^5 X^2 - 386983526400 i Y^3 a_1 a_2^3 a_3^5 X^2 + 653034700800 Y a_1 a_2^3 a_3^5 T X^2 + 32248627200 i Y^3 a_1^3 a_2 a_3^3 X^2 +$
 $1275458400 a_1^5 a_2 a_3^3 T^4 X^2 + 54419558400 i Y a_1^3 a_2 a_3^5 T^2 X^2 + 48372940800 Y^2 a_1^3 a_2 a_3^5 X^2 + 870712934400 i Y^2 a_1 a_2^3 a_3^3 T X^2 -$
 $244888012800 Y a_1 a_2^3 a_3^5 T^3 X^2 + 403107840 Y^4 a_1^5 a_2 a_3^3 X^2 + 96745881600 Y^3 a_1 a_2^3 a_3^5 T X^2 + 537477120 i Y a_1^5 a_2 a_3^3 X^2 +$
 $36279705600 Y^3 a_1^3 a_2 a_3^3 T X^2 + 85996339200 i Y^3 a_1 a_2^3 a_3^5 X^2 + 54419558400 Y a_1 a_2^5 a_3^3 T^3 X^2 - 18139852800 i Y a_1^5 a_2 a_3^3 X^2 T^2 -$
 $108839116800 Y^2 a_1 a_2^5 a_3^3 T^2 X^2 - 16124313600 Y^2 a_1^5 a_2 a_3^3 X^2 + 18139852800 Y a_1^5 a_2 a_3^3 T X^2 - 6802444800 Y a_1^5 a_2 a_3^3 X^2 T -$
 $54419558400 Y a_1 a_2^3 a_3^5 T X^2 + 145118822400 i Y a_1 a_2^3 a_3^5 T^2 X^2 - 145118822400 Y a_1 a_2^3 a_3^5 X^2 - 10203667200 a_1 a_2^3 a_3^5 T^4 X^2 -$
 $193491763200 Y^2 a_1 a_2^5 a_3^3 X^2 T - 16124313600 i Y a_1 a_2^3 a_3^5 X^2 - 32248627200 Y^4 a_1 a_2^3 a_3^5 X^2 - 40814668800 Y^2 a_1^3 a_2 a_3^5 T^2 X^2 +$
 $45916502400 a_1 a_2^3 a_3^5 T^4 X^2 - 13604889600 i a_1^3 a_2 a_3^5 X^2 T^3 + 453496320 i a_1^5 a_2 a_3^3 T^3 X^2 + 1360488960 Y^2 a_1^5 a_2 a_3^3 T^2 X^2 -$
 $36279705600 i a_1 a_2^5 a_3^3 X^2 T^3 - 12093235200 Y^3 a_1^5 a_2 a_3^3 T X^2 + 13604889600 a_1^3 a_2 a_3^5 T^2 X^2 + 193491763200 i Y a_1 a_2^3 a_3^5 X^2 -$
 $653034700800 i Y a_1 a_2^3 a_3^5 X^2 T^2 + 2418647040 i Y^2 a_1^5 a_2 a_3^3 T X^2 + 145118822400 Y^4 a_1 a_2^3 a_3^5 X^2 - 435356467200 Y^3 a_1 a_2^3 a_3^5 T X^2 +$
 $489776025600 Y^2 a_1 a_2^3 a_3^5 T^2 X^2 - 4534963200 a_1^5 a_2 a_3^3 T^2 X^2 - 72559411200 i Y^2 a_1^3 a_2 a_3^5 X^2 T - 3826375200 a_1^3 a_2 a_3^3 T^4 X^2 -$
 $24186470400 i Y a_1^3 a_2 a_3^5 X T + 61222003200 i a_1 a_2^3 a_3^5 T^4 X - 2418647040 Y^2 a_1^5 a_2 a_3^3 T X + 193491763200 i Y^4 a_1 a_2^3 a_3^5 X +$
 $193491763200 Y^2 a_1 a_2^5 a_3^3 T X + 27209779200 i Y a_1^3 a_2 a_3^5 T^3 X - 18139852800 Y^4 a_1^3 a_2 a_3^5 T X + 199065600 i a_1 a_2^3 a_3^5 T X^2 +$
 $6802444800 a_1^3 a_2 a_3^5 T^3 X + 290237644800 i Y a_1 a_2^3 a_3^5 T X - 199065600 i a_1 a_2^3 a_3^5 T X - 42998169600 i Y a_1^5 a_2 a_3^3 X^2 X +$
 $537477120 i Y^4 a_1^5 a_2 a_3^3 X - 580475289600 i Y^3 a_1 a_2^3 a_3^5 X T + 79626240 i a_2 a_3^3 d_1 X - 145118822400 i Y^2 a_1 a_2^5 a_3^3 X T^2 +$
 $13604889600 a_1^5 a_2 a_3^3 T^2 X - 54419558400 i Y^2 a_1^3 a_2 a_3^5 X T^2 - 9830400 a_1^3 a_2 a_3^3 X + 806215680 i Y a_1^5 a_2 a_3^3 T X -$
 $117964800 i Y a_1^3 a_2^3 c_3 X - 91833004800 Y a_1 a_2^3 a_3^5 T^4 X - 326517350400 i Y a_1 a_2^3 a_3^5 T X + 48372940800 i Y a_1^3 a_2 a_3^3 T X -$
 $16124313600 i Y^4 a_1^3 a_2 a_3^5 X - 48372940800 Y^4 a_1 a_2^5 a_3^3 T X - 9069926400 i Y a_1^5 a_2 a_3^3 T X + 32248627200 i Y^2 a_1^3 a_2 a_3^3 X +$
 $9830400 i a_1^3 a_2 c_3 X + 85996339200 i Y^2 a_1 a_2^5 a_3^3 X + 27209779200 Y^3 a_1^3 a_2 a_3^3 T^2 X - 386983526400 i Y^2 a_1 a_2^3 a_3^3 X -$
 $64497254400 i Y a_1 a_2^5 a_3^3 X T + 604661760 Y^4 a_1^5 a_2 a_3^3 T X + 1343692800 Y^3 a_1^5 a_2 a_3^3 X + 18139852800 a_1^5 a_2 a_3^3 X +$
 $217678233600 Y^4 a_1 a_2^3 a_3^5 T X - 54419558400 Y^2 a_1 a_2^5 a_3^3 T^3 X + 3826375200 i Y a_1^5 a_2 a_3^3 T^5 X + 20407334400 Y a_1 a_2^5 a_3^3 T^4 X +$
 $6802444800 Y^4 a_1^5 a_2 a_3^3 T^3 X - 870712934400 Y^2 a_1 a_2^3 a_3^5 T X - 9069926400 Y^3 a_1^5 a_2 a_3^3 T^2 X + 653034700800 i Y^2 a_1 a_2^3 a_3^3 T^2 X -$
 $2550916800 Y a_1^5 a_2 a_3^3 T^4 X - 408146688000 Y a_1^3 a_2 a_3^5 T^2 X + 72559411200 Y^3 a_1 a_2^3 a_3^5 T^2 X - 108839116800 Y a_1 a_2^5 a_3^3 T^2 X +$
 $7652750400 Y a_1^3 a_2 a_3^5 T^4 X + 128994508800 i Y^3 a_1 a_2^5 a_3^3 T X - 16124313600 i Y^3 a_1^5 a_2 a_3^3 X T + 72559411200 Y^2 a_1^3 a_2 a_3^3 T X +$
 $18139852800 i Y^2 a_1^5 a_2 a_3^3 T^2 X - 1612431360 Y^5 a_1^5 a_2 a_3^3 X - 326517350400 Y^3 a_1 a_2^3 a_3^5 T X + 48372940800 Y^5 a_1^3 a_2 a_3^3 T X +$
 $12899450880 Y^5 a_1 a_2^5 a_3^3 X - 58047528960 Y^5 a_1 a_2^3 a_3^5 X - 13604889600 i a_1 a_2^5 a_3^3 X T^4 + 72559411200 i Y a_1 a_2^5 a_3^3 T^3 X -$
 $79626240 i a_2 a_3^3 c_1 X + 117964800 i a_1 a_2^3 d_3 X + 489776025600 Y a_1 a_2^3 a_3^5 T^2 X - 30611001600 a_1 a_2^5 a_3^3 T^5 X +$
 $48372940800 Y^3 a_1 a_2^3 a_3^5 X - 816293376000 a_1 a_2^3 a_3^5 T^3 X + 137749507200 a_1 a_2^3 a_3^5 T^5 X - 5101833600 i Y a_1^3 a_2 a_3^3 X T^4 -$
 $11479125600 a_1^3 a_2 a_3^5 T^5 X - 2267481600 a_1^5 a_2 a_3^3 T^3 X + 1700611200 i a_1^5 a_2 a_3^3 T^4 X - 107495424000 Y^3 a_1 a_2^5 a_3^3 X +$
 $244888012800 Y^2 a_1 a_2^3 a_3^5 T^3 X - 40310784000 Y^3 a_1^3 a_2 a_3^5 X - 20407334400 Y^2 a_1^3 a_2 a_3^5 T^3 X - 10749542400 i Y^2 a_1^5 a_2 a_3^3 X -$
 $16124313600 i Y^3 a_1^3 a_2 a_3^5 + 786432000 a_1 a_2^3 c_3 + 32248627200 i Y^5 a_1^3 a_2 a_3^5 + 145118822400 i Y^4 a_1 a_2^3 a_3^5 T -$
 $1327104000 a_1 a_2^3 c_2 - 32248627200 i Y^4 a_1 a_2^3 a_3^3 T - 65536000 a_1^3 a_2 c_3 - 2149908480 Y^6 a_1 a_2^5 a_3^3 + 403107840 i Y^4 a_1^5 a_2 a_3^3 T -$
 $79626240 i Y a_2 a_3^3 d_1 + 16124313600 Y^2 a_1^3 a_2 a_3^5 - 61222003200 i Y a_1 a_2^3 a_3^5 T^4 + 9674588160 Y^6 a_1 a_2^3 a_3^5 +$
 $193491763200 i Y^3 a_1 a_2^3 a_3^5 + 48372940800 i Y^3 a_1 a_2^5 a_3^3 T^2 + 18139852800 i Y^3 a_1^3 a_2 a_3^5 T^2 - 193491763200 Y^2 a_1 a_2^5 a_3^3 T^2 X +$
 $530841600 a_2 a_3^3 c_1 + 26873856 Y^6 a_1^5 a_2 a_3^3 - 8062156800 Y^6 a_1^3 a_2 a_3^5 + 4782969 a_1^5 a_2 a_3^3 T^6 - 24186470400 i Y a_1 a_2^5 a_3^3 T^2 +$
 $12093235200 Y^4 a_1^3 a_2 a_3^5 + 108839116800 i Y a_1 a_2^3 a_3^5 T^2 - 145118822400 Y^4 a_1 a_2^3 a_3^5 + 3023308800 Y a_1^5 a_2 a_3^3 T^2 -$
 $604661760 i Y^3 a_1^5 a_2 a_3^3 T^2 - 9069926400 i Y a_1^3 a_2 a_3^5 T^2 - 1179648000 i Y a_1 a_2^3 d_3 - 217678233600 i Y^3 a_1 a_2^3 a_3^5 T^2 +$
 $65536000 a_1^3 a_2 d_3 - 8062156800 i Y^2 a_1^5 a_2 a_3^3 T + 3401222400 Y a_1^5 a_2 a_3^3 T^3 + 24186470400 i Y^2 a_1^3 a_2 a_3^3 T - 10203667200 Y a_1^3 a_2 a_3^3 T^3 +$
 $64497254400 i Y^2 a_1 a_2^5 a_3^3 T - 27209779200 Y a_1 a_2^5 a_3^3 T^3 - 290237644800 i Y^2 a_1 a_2^3 a_3^5 T + 122444006400 Y a_1 a_2^3 a_3^5 T^3 -$
 $786432000 a_1 a_2^3 d_3 - 2267481600 Y^3 a_1^5 a_2 a_3^3 T^3 + 1327104000 a_1 a_2^3 d_2 + 6802444800 Y^3 a_1^3 a_2 a_3^5 T^3 - 530841600 a_2 a_3^3 d_1 -$
 $12093235200 i Y^4 a_1^3 a_2 a_3^5 T - 1700611200 i Y a_1^5 a_2 a_3^3 T^4 + 4534963200 Y^2 a_1^5 a_2 a_3^3 T^3 + 5101833600 i Y a_1^3 a_2 a_3^3 T^4 -$
 $13604889600 i Y^2 a_1^3 a_2 a_3^5 T^3 + 13604889600 i Y a_1 a_2^5 a_3^3 T^4 - 5374771200 Y a_1^5 a_2 a_3^3 - 15305500800 a_1 a_2^3 a_3^5 T^4 +$
 $42998169600 Y^2 a_1 a_2^5 a_3^3 + 10077696000 Y^3 a_1^5 a_2 a_3^3 T - 1434890700 a_1^3 a_2 a_3^5 T^6 - 30233088000 Y^3 a_1^3 a_2 a_3^5 T -$
 $38263752000 a_1 a_2^5 a_3^3 T^6 - 80621568000 Y^3 a_1 a_2^5 a_3^3 T + 17218688400 a_1 a_2^3 a_3^5 T^6 + 362797056000 Y^3 a_1 a_2^3 a_3^5 T +$
 $18139852800 Y^3 a_1 a_2^3 a_3^5 T^3 + 9674588160 Y^5 a_1 a_2^5 a_3^3 T - 4031078400 Y^4 a_1^5 a_2 a_3^3 - 43535646720 Y^5 a_1 a_2^3 a_3^5 T +$
 $32248627200 Y^4 a_1 a_2^5 a_3^3 - 3826375200 Y a_1^5 a_2 a_3^3 T^5 - 36279705600 i Y^2 a_1 a_2^5 a_3^3 T^3 + 11479125600 Y a_1^3 a_2 a_3^3 T^5 +$
 $163258675200 i Y^2 a_1 a_2^3 a_3^5 T^3 + 30611001600 Y a_1 a_2^5 a_3^3 T^5 + 1990656000 i Y a_1 a_2^3 d_2 - 13774950720 Y a_1 a_2^3 a_3^5 T^5 +$
 $79626240 i Y a_2 a_3^3 c_1 - 9069926400 Y^2 a_1^5 a_2 a_3^3 T^2 + 5374771200 i Y^3 a_1^5 a_2 a_3^3 + 27209779200 Y^2 a_1^3 a_2 a_3^5 T^2 -$
 $42998169600 i Y^3 a_1 a_2^5 a_3^3 + 72559411200 Y^2 a_1 a_2^5 a_3^3 T^2 - 10749542400 i Y^5 a_1^5 a_2 a_3^3 - 326517350400 Y^2 a_1 a_2^3 a_3^5 T^2 +$
 $85996339200 i Y^5 a_1 a_2^5 a_3^3 - 386983526400 i Y^5 a_1 a_2^3 a_3^5 - 98304000 i Y a_1^3 a_2 c_3 + 98304000 i Y a_1^3 a_2 d_3 + 117964800 i Y a_1 a_2^3 c_3 -$
 $425152800 a_1^5 a_2 a_3^3 T^4 + 2550916800 i a_1^5 a_2 a_3^3 T^5 + 1275458400 a_1^3 a_2 a_3^5 T^4 - 7652750400 i a_1^3 a_2 a_3^5 T^5 + 3401222400 a_1 a_2^5 a_3^3 T^4 -$
 $20407334400 i a_1 a_2^5 a_3^3 T^5 + 2267481600 Y^4 a_1^5 a_2 a_3^3 T^2 + 91833004800 i a_1 a_2^3 a_3^5 T^5 - 6802444800 Y^4 a_1^3 a_2 a_3^5 T^2 +$

$$\begin{aligned}
& 149299200 i a_1 a_3^3 c_2 T - 18139852800 Y^4 a_1 a_2^5 a_3^3 T^2 - 149299200 i a_1 a_3^3 d_2 T + 81629337600 Y^4 a_1 a_2^3 a_3^5 T^2 - \\
& 59719680 i a_2 a_3^3 c_1 T - 120932352 Y^5 a_1^5 a_2 a_3^3 T + 59719680 i a_2 a_3^3 d_1 T + 3627970560 Y^5 a_1^3 a_2 a_3^5 T + 7372800 i a_1^3 a_2 c_3 T - \\
& 81629337600 Y^3 a_1 a_2^3 a_3^5 T^3 - 7372800 i a_1^3 a_2 d_3 T - 10203667200 Y^2 a_1 a_2^5 a_3^3 T^4 - 88473600 i a_1 a_2^3 c_3 T + 45916502400 Y^2 a_1 a_2^3 a_3^5 T^4 + \\
& 88473600 i a_1 a_2^3 d_3 T + 127545840 Y^2 a_1^5 a_2 a_3^3 T^4 - 199065600 i Y a_1 a_3^3 c_2 - 3826375200 Y^2 a_1^3 a_2 a_3^5 T^4
\end{aligned}$$