D3Q7 ADE,

a supplementary material for

Lattice Boltzmann Method Analysis Tool (LBMAT)

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Contents

1 Global definitions

In $\mathbb{R}^3$, the position and velocity vectors are given by $\boldsymbol{x} = (x_1, x_2, x_3)^T$ and $\boldsymbol{v} = (v_1, v_2, v_3)^T$, respectively.

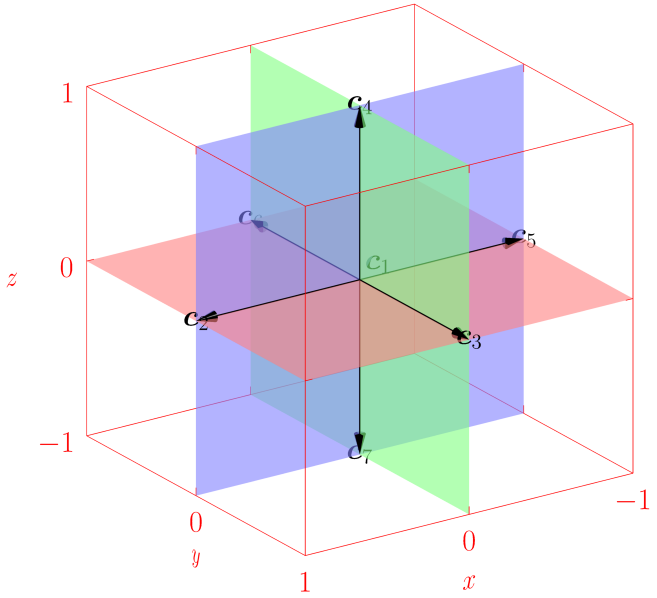
1.1 Discrete velocity vectors

Discrete velocity vectors and the lattice speed of sound are defined by

$$\{\boldsymbol{c}_i\}_{i=1}^{7} = \left(\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}, \begin{pmatrix} -1 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ -1 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \\ -1 \end{pmatrix} \right),$$

$$c_s = \frac{1}{2},$$

respectively [1].



1.2 Raw and central moments

The raw and central moments are defined by

$$m_{\boldsymbol{\alpha}} := \sum_{i=1}^{7} f_i \boldsymbol{c}_i^{\boldsymbol{\alpha}},$$

and

$$k_{\boldsymbol{\alpha}} := \sum_{i=1}^{7} f_i (\boldsymbol{c}_i - \boldsymbol{v})^{\boldsymbol{\alpha}},$$

respectively, where $\boldsymbol{\alpha} = (\alpha_1, \alpha_2, \alpha_3) \in \mathbb{Z}^3$ denotes a multi-index (as a row vector) and $\boldsymbol{c}_i^{\boldsymbol{\alpha}} := \prod_{j=1}^{3} [\boldsymbol{c}_i]_j^{\alpha_j}$.

1.3 Transformation matrix M

Matrix $\mathbf{M}$, that defines macroscopic quantities (moments) $\boldsymbol{\mu}$ by

$$\boldsymbol{\mu} = \mathbf{M}\boldsymbol{f},$$

with $\boldsymbol{f} = (f_1, f_2, \ldots, f_7)^T$, is selected such that

$$\boldsymbol{\mu} = \left(m_{(0,0,0)}, m_{(1,0,0)}, m_{(0,1,0)}, m_{(0,0,1)}, m_{(2,0,0)}, m_{(0,2,0)}, m_{(0,0,2)}\right)^T,$$

i.e., $\mathbf{M}$ is given by

$$\mathbf{M} = \begin{pmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & -1 \\ 0 & 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & 1 \end{pmatrix}.$$

1.4 Equilibrium

The corresponding equilibrium raw moments are defined using the continuous Maxwell–Boltzmann distribution function [1]

$$f^{(eq)}(\boldsymbol{\xi}) = \frac{\rho}{(2\pi c_s^2)^{\frac{3}{2}}} \exp\left(-\frac{||\boldsymbol{\xi} - \boldsymbol{v}||^2}{2c_s^2}\right)$$

as

$$m_{\boldsymbol{\alpha}}^{(eq)} = \int_{\mathbb{R}^3} \boldsymbol{\xi}^{\boldsymbol{\alpha}} f^{(eq)}(\boldsymbol{\xi}) \mathrm{d}\boldsymbol{\xi},$$

where $\alpha_i \in \{0, 1, 2\}$, $i = 1, 2, 3$. Hence, the equilibrium moments $\boldsymbol{\mu}^{(eq)}$ satisfy

$$\boldsymbol{\mu}^{(eq)} = \begin{pmatrix} \rho \\ \rho v_1 \\ \rho v_2 \\ \rho v_3 \\ \rho(v_1^2 + c_s^2) \\ \rho(v_2^2 + c_s^2) \\ \rho(v_3^2 + c_s^2) \end{pmatrix}.$$

2 Spatial EPDEs

2.1 SRT

2.1.1 Definitions

Collision operator $\boldsymbol{C}$:

$$\boldsymbol{C}(\boldsymbol{f}) = \omega\left(\mathbf{M}^{-1}\boldsymbol{\mu}^{(eq)} - \boldsymbol{f}\right),$$

$\omega \in (0, 2)$.

2.1.2 Conservation of mass equation

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$$\frac{\partial \rho}{\partial t} + \frac{\delta_l v_1}{\delta_t}\frac{\partial \rho}{\partial x_1} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_1}{\partial x_1} + \frac{\delta_l v_2}{\delta_t}\frac{\partial \rho}{\partial x_2} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_2}{\partial x_2} + \frac{\delta_l v_3}{\delta_t}\frac{\partial \rho}{\partial x_3} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_3}{\partial x_3} + (-2+\omega)\frac{\delta_l}{2\omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} + (-2+\omega)\frac{\delta_l^2 v_1}{2\delta_t \omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1}$$
$$+ (-2+\omega)\frac{\delta_l^2 \rho}{2\delta_t \omega}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + (2-\omega)\frac{\delta_l^2 v_2}{2\delta_t \omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + (2-\omega)\frac{\delta_l^2 v_1}{\delta_t \omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} + (2-\omega)\frac{\delta_l^2 \rho}{\delta_t \omega}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2} + (2-\omega)\frac{\delta_l^2 v_3}{2\delta_t \omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3}$$
$$+ (2-\omega)\frac{\delta_l^2 v_1}{\delta_t \omega}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3} + (2-\omega)\frac{\delta_l^2 \rho}{\delta_t \omega}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3} + (-2+\omega)\frac{\delta_l}{2\omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t} + (2-\omega)\frac{\delta_l^2 v_2}{\delta_t \omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1} + (2-\omega)\frac{\delta_l^2 v_1}{2\delta_t \omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1} +$$
$$(-2+\omega)\frac{\delta_l^2 v_2}{2\delta_t \omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2} + (-2+\omega)\frac{\delta_l^2 \rho}{2\delta_t \omega}\left(\frac{\partial v_2}{\partial x_2}\right)^2 + (2-\omega)\frac{\delta_l^2 v_3}{2\delta_t \omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3} + (2-\omega)\frac{\delta_l^2 v_2}{\delta_t \omega}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3} + (2-\omega)\frac{\delta_l^2 \rho}{\delta_t \omega}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3} +$$
$$(-2+\omega)\frac{\delta_l}{2\omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t} + (2-\omega)\frac{\delta_l^2 v_3}{\delta_t \omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1} + (2-\omega)\frac{\delta_l^2 v_1}{2\delta_t \omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1} + (2-\omega)\frac{\delta_l^2 v_3}{\delta_t \omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2} + (2-\omega)\frac{\delta_l^2 v_2}{2\delta_t \omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2} +$$
$$(-2+\omega)\frac{\delta_l^2 v_3}{2\delta_t \omega}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3} + (-2+\omega)\frac{\delta_l^2 \rho}{2\delta_t \omega}\left(\frac{\partial v_3}{\partial x_3}\right)^2 + (-2+\omega)\frac{\delta_l \rho}{2\omega}\frac{\partial^2 v_1}{\partial t \partial x_1} + (-2+\omega)\frac{\delta_l^2 cs^2}{2\delta_t \omega}\frac{\partial^2 \rho}{\partial x_1^2} + (-2+\omega)\frac{\delta_l^2 \rho v_1}{2\delta_t \omega}\frac{\partial^2 v_1}{\partial x_1^2} +$$
$$(-2+\omega)\frac{\delta_l \rho}{2\omega}\frac{\partial^2 v_2}{\partial t \partial x_2} + (2-\omega)\frac{\delta_l^2 v_1 v_2}{\delta_t \omega}\frac{\partial^2 \rho}{\partial x_1 \partial x_2} + (2-\omega)\frac{\delta_l^2 \rho v_2}{2\delta_t \omega}\frac{\partial^2 v_1}{\partial x_1 \partial x_2} + (2-\omega)\frac{\delta_l^2 \rho v_1}{2\delta_t \omega}\frac{\partial^2 v_2}{\partial x_1 \partial x_2} + (-2+\omega)\frac{\delta_l^2 cs^2}{2\delta_t \omega}\frac{\partial^2 \rho}{\partial x_2^2} +$$
$$(-2+\omega)\frac{\delta_l^2 \rho v_2}{2\delta_t \omega}\frac{\partial^2 v_2}{\partial x_2^2} + (-2+\omega)\frac{\delta_l \rho}{2\omega}\frac{\partial^2 v_3}{\partial t \partial x_3} + (2-\omega)\frac{\delta_l^2 v_1 v_3}{\delta_t \omega}\frac{\partial^2 \rho}{\partial x_1 \partial x_3} + (2-\omega)\frac{\delta_l^2 \rho v_3}{2\delta_t \omega}\frac{\partial^2 v_1}{\partial x_1 \partial x_3} + (2-\omega)\frac{\delta_l^2 \rho v_1}{2\delta_t \omega}\frac{\partial^2 v_3}{\partial x_1 \partial x_3} +$$
$$(2-\omega)\frac{\delta_l^2 v_3 v_2}{\delta_t \omega}\frac{\partial^2 \rho}{\partial x_2 \partial x_3} + (2-\omega)\frac{\delta_l^2 \rho v_3}{2\delta_t \omega}\frac{\partial^2 v_2}{\partial x_2 \partial x_3} + (2-\omega)\frac{\delta_l^2 \rho v_2}{2\delta_t \omega}\frac{\partial^2 v_3}{\partial x_2 \partial x_3} + (-2+\omega)\frac{\delta_l^2 cs^2}{2\delta_t \omega}\frac{\partial^2 \rho}{\partial x_3^2} + (-2+\omega)\frac{\delta_l^2 \rho v_3}{2\delta_t \omega}\frac{\partial^2 v_3}{\partial x_3^2} +$$
$$(12+\omega^2-12\omega)\frac{\delta_l \delta_t \rho}{12\omega^2}\frac{\partial^3 v_1}{\partial t^2 \partial x_1} + (12+\omega^2-12\omega)\frac{\delta_l^2 \rho v_1}{6\omega^2}\frac{\partial^3 v_1}{\partial t \partial x_1^2} +$$
$$(6-3cs^2\omega^2-6v_1^2-18cs^2+18cs^2\omega-v_1^2\omega^2+\omega^2-6\omega+6v_1^2\omega)\frac{\delta_l^3 v_1}{6\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1^3} +$$
$$(12-3cs^2\omega^2-24v_1^2-24cs^2+24cs^2\omega-5v_1^2\omega^2+2\omega^2-12\omega+24v_1^2\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1^3} + (12+\omega^2-12\omega)\frac{\delta_l \delta_t \rho}{12\omega^2}\frac{\partial^3 v_2}{\partial t^2 \partial x_2} +$$
$$(-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_2}{3\omega^2}\frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_2} + (-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_1}{3\omega^2}\frac{\partial^3 v_2}{\partial t \partial x_1 \partial x_2} +$$
$$(-cs^2\omega^2+6v_1^2-6cs^2+6cs^2\omega+v_1^2\omega^2-6v_1^2\omega)\frac{\delta_l^3 v_2}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_2} + (12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_1 v_2}{6\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_2} +$$
$$(-3cs^2\omega^2-24cs^2+24cs^2\omega+v_1^2\omega^2)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_1^2 \partial x_2} + (12+\omega^2-12\omega)\frac{\delta_l^2 \rho v_2}{6\omega^2}\frac{\partial^3 v_2}{\partial t \partial x_2^2} +$$
$$(-cs^2\omega^2-6v_2^2\omega+v_2^2\omega^2-6cs^2+6v_2^2+6cs^2\omega)\frac{\delta_l^3 v_1}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1 \partial x_2^2} + (-3cs^2\omega^2+v_2^2\omega^2-24cs^2+24cs^2\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1 \partial x_2^2} +$$
$$(12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_1 v_2}{6\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_1 \partial x_2^2} + (6-3cs^2\omega^2+6v_2^2\omega-v_2^2\omega^2-18cs^2-6v_2^2+18cs^2\omega+\omega^2-6\omega)\frac{\delta_l^3 v_2}{6\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_2^3} +$$
$$(12-3cs^2\omega^2+24v_2^2\omega-5v_2^2\omega^2-24cs^2-24v_2^2+24cs^2\omega+2\omega^2-12\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_2^3} + (12+\omega^2-12\omega)\frac{\delta_l \delta_t \rho}{12\omega^2}\frac{\partial^3 v_3}{\partial t^2 \partial x_3} +$$
$$(-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_3}{3\omega^2}\frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_3} + (-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_1}{3\omega^2}\frac{\partial^3 v_3}{\partial t \partial x_1 \partial x_3} +$$
$$(-cs^2\omega^2+6v_1^2-6cs^2+6cs^2\omega+v_1^2\omega^2-6v_1^2\omega)\frac{\delta_l^3 v_3}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_3} + (12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_1 v_3}{6\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_3} +$$
$$(-3cs^2\omega^2-24cs^2+24cs^2\omega+v_1^2\omega^2)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_1^2 \partial x_3} + (-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_3}{3\omega^2}\frac{\partial^3 v_2}{\partial t \partial x_2 \partial x_3} + (-6-\omega^2+6\omega)\frac{\delta_l^2 \rho v_2}{3\omega^2}\frac{\partial^3 v_3}{\partial t \partial x_2 \partial x_3}$$
$$+ (6+\omega^2-6\omega)\frac{2\delta_l^3 v_1 v_3 v_2}{\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1 \partial x_2 \partial x_3} + (6+\omega^2-6\omega)\frac{2\delta_l^3 \rho v_3 v_2}{3\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1 \partial x_2 \partial x_3} + (6+\omega^2-6\omega)\frac{2\delta_l^3 \rho v_1 v_3}{3\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_1 \partial x_2 \partial x_3} +$$
$$(6+\omega^2-6\omega)\frac{2\delta_l^3 \rho v_1 v_2}{3\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_1 \partial x_2 \partial x_3} + (-cs^2\omega^2-6v_2^2\omega+v_2^2\omega^2-6cs^2+6v_2^2+6cs^2\omega)\frac{\delta_l^3 v_3}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_2^2 \partial x_3} +$$
$$(12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_3 v_2}{6\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_2^2 \partial x_3} + (-3cs^2\omega^2+v_2^2\omega^2-24cs^2+24cs^2\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_2^2 \partial x_3} + (12+\omega^2-12\omega)\frac{\delta_l^2 \rho v_3}{6\omega^2}\frac{\partial^3 v_3}{\partial t \partial x_3^2}$$
$$+ (-cs^2\omega^2+v_3^2\omega^2+6v_3^2-6cs^2+6cs^2\omega-6v_3^2\omega)\frac{\delta_l^3 v_1}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_1 \partial x_3^2} + (-3cs^2\omega^2+v_3^2\omega^2-24cs^2+24cs^2\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_1}{\partial x_1 \partial x_3^2}$$
$$+ (12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_1 v_3}{6\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_1 \partial x_3^2} + (-cs^2\omega^2+v_3^2\omega^2+6v_3^2-6cs^2+6cs^2\omega-6v_3^2\omega)\frac{\delta_l^3 v_2}{2\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_2 \partial x_3^2} +$$
$$(-3cs^2\omega^2+v_3^2\omega^2-24cs^2+24cs^2\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_2}{\partial x_2 \partial x_3^2} + (12+\omega^2-12\omega)\frac{\delta_l^3 \rho v_3 v_2}{6\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_2 \partial x_3^2} +$$
$$(6-3cs^2\omega^2-v_3^2\omega^2-6v_3^2-18cs^2+18cs^2\omega+6v_3^2\omega+\omega^2-6\omega)\frac{\delta_l^3 v_3}{6\delta_t \omega^2}\frac{\partial^3 \rho}{\partial x_3^3} +$$
$$(12-3cs^2\omega^2-5v_3^2\omega^2-24v_3^2-24cs^2+24cs^2\omega+24v_3^2\omega+2\omega^2-12\omega)\frac{\delta_l^3 \rho}{12\delta_t \omega^2}\frac{\partial^3 v_3}{\partial x_3^3} + (-2-\omega^2+3\omega)\frac{\delta_l \delta_t^2 \rho}{2\omega^3}\frac{\partial^4 v_1}{\partial t^3 \partial x_1} +$$
$$(-2-\omega^2+3\omega)\frac{3\delta_l^2 \delta_t \rho v_1}{2\omega^3}\frac{\partial^4 v_1}{\partial t^2 \partial x_1^2} + C_1\frac{\delta_l^3 \rho}{12\omega^3}\frac{\partial^4 v_1}{\partial t \partial x_1^3} + C_2\frac{\delta_l^4}{24\delta_t \omega^3}\frac{\partial^4 \rho}{\partial x_1^4} + C_3\frac{\delta_l^4 \rho v_1}{12\delta_t \omega^3}\frac{\partial^4 v_1}{\partial x_1^4} + (-2-\omega^2+3\omega)\frac{\delta_l \delta_t^2 \rho}{2\omega^3}\frac{\partial^4 v_2}{\partial t^3 \partial x_2} +$$
$$(36-\omega^3+20\omega^2-54\omega)\frac{\delta_l^2 \delta_t \rho v_2}{12\omega^3}\frac{\partial^4 v_1}{\partial t^2 \partial x_1 \partial x_2} + (36-\omega^3+20\omega^2-54\omega)\frac{\delta_l^2 \delta_t \rho v_1}{12\omega^3}\frac{\partial^4 v_2}{\partial t^2 \partial x_1 \partial x_2} +$$
$$(-24+\omega^3-14\omega^2+36\omega)\frac{\delta_l^3 \rho v_1 v_2}{6\omega^3}\frac{\partial^4 v_1}{\partial t \partial x_1^2 \partial x_2} + (34cs^2\omega^2-2cs^2\omega^3+60cs^2-90cs^2\omega-2v_1^2\omega^2+v_1^2\omega^3)\frac{\delta_l^3 \rho}{12\omega^3}\frac{\partial^4 v_2}{\partial t \partial x_1^2 \partial x_2}$$

$$+ (24 - 72cs^2\omega^2 + 6cs^2\omega^3 - 120cs^2 + 180cs^2\omega - \omega^3 + 14\omega^2 - 36\omega)\frac{\delta_l^4 v_1 v_2}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1^3\partial x_2} + C_4\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1^3\partial x_2} +$$
$$C_5\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1^3\partial x_2} + (-2 - \omega^2 + 3\omega)\frac{3\delta_l^2\delta_t\rho v_2}{2\omega^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2^2} +$$
$$(34cs^2\omega^2 - 2cs^2\omega^3 - 2v_2^2\omega^2 + 60cs^2 + v_2^2\omega^3 - 90cs^2\omega)\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2^2} + (-24 + \omega^3 - 14\omega^2 + 36\omega)\frac{\delta_l^3\rho v_1 v_2}{6\omega^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2^2}$$
$$+ C_6\frac{\delta_l^4}{4\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2} + (-26cs^2\omega^2 + cs^2\omega^3 - 126v_2^2\omega + 50v_2^2\omega^2 - 48cs^2 - 4v_2^2\omega^3 + 84v_2^2 + 72cs^2\omega)\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2^2} +$$
$$(-26cs^2\omega^2 + 84v_1^2 + cs^2\omega^3 - 48cs^2 + 72cs^2\omega + 50v_1^2\omega^2 - 4v_1^2\omega^3 - 126v_1^2\omega)\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2^2} + C_7\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_2}{\partial t\partial x_2^3} +$$
$$(24 - 72cs^2\omega^2 + 6cs^2\omega^3 - 120cs^2 + 180cs^2\omega - \omega^3 + 14\omega^2 - 36\omega)\frac{\delta_l^4 v_1 v_2}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1\partial x_2^3} + C_8\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1\partial x_2^3} +$$
$$C_9\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2^3} + C_{10}\frac{\delta_l^4}{24\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_2^4} + C_{11}\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_2^4} + (-2 - \omega^2 + 3\omega)\frac{\delta_l\delta_t^2\rho}{2\omega^3}\frac{\partial^4 v_3}{\partial t^3\partial x_3} +$$
$$(36 - \omega^3 + 20\omega^2 - 54\omega)\frac{\delta_l^2\delta_t\rho v_3}{12\omega^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_3} + (36 - \omega^3 + 20\omega^2 - 54\omega)\frac{\delta_l^2\delta_t\rho v_1}{12\omega^3}\frac{\partial^4 v_3}{\partial t^2\partial x_1\partial x_3} +$$
$$(-24 + \omega^3 - 14\omega^2 + 36\omega)\frac{\delta_l^3\rho v_1 v_3}{6\omega^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_3} + (34cs^2\omega^2 - 2cs^2\omega^3 + 60cs^2 - 90cs^2\omega - 2v_1^2\omega^2 + v_1^2\omega^3)\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_1^2\partial x_3}$$
$$+ (24 - 72cs^2\omega^2 + 6cs^2\omega^3 - 120cs^2 + 180cs^2\omega - \omega^3 + 14\omega^2 - 36\omega)\frac{\delta_l^4 v_1 v_3}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1^3\partial x_3} + C_{12}\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1^3\partial x_3} +$$
$$C_{13}\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1^3\partial x_3} + (36 - \omega^3 + 20\omega^2 - 54\omega)\frac{\delta_l^2\delta_t\rho v_3}{12\omega^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2\partial x_3} + (36 - \omega^3 + 20\omega^2 - 54\omega)\frac{\delta_l^2\delta_t\rho v_2}{12\omega^3}\frac{\partial^4 v_3}{\partial t^2\partial x_2\partial x_3} +$$
$$(-20 + \omega^3 - 12\omega^2 + 30\omega)\frac{\delta_l^3\rho v_3 v_2}{2\omega^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2\partial x_3} + (-20 + \omega^3 - 12\omega^2 + 30\omega)\frac{\delta_l^3\rho v_1 v_3}{2\omega^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2\partial x_3} +$$
$$(-20 + \omega^3 - 12\omega^2 + 30\omega)\frac{\delta_l^3\rho v_1 v_2}{2\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_2\partial x_3} +$$
$$(-12cs^2\omega^2 + 40v_1^2 + cs^2\omega^3 - 20cs^2 + 30cs^2\omega + 24v_1^2\omega^2 - 2v_1^2\omega^3 - 60v_1^2\omega)\frac{\delta_l^4 v_3 v_2}{\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_2\partial x_3} +$$
$$(132 - 5\omega^3 + 76\omega^2 - 198\omega)\frac{\delta_l^4\rho v_1 v_3 v_2}{6\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2\partial x_3} +$$
$$(-56cs^2\omega^2 + 84v_1^2 + 4cs^2\omega^3 - 96cs^2 + 144cs^2\omega + 52v_1^2\omega^2 - 5v_1^2\omega^3 - 126v_1^2\omega)\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2\partial x_3} +$$
$$(-56cs^2\omega^2 + 84v_1^2 + 4cs^2\omega^3 - 96cs^2 + 144cs^2\omega + 52v_1^2\omega^2 - 5v_1^2\omega^3 - 126v_1^2\omega)\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1^2\partial x_2\partial x_3} +$$
$$(-24 + \omega^3 - 14\omega^2 + 36\omega)\frac{\delta_l^3\rho v_3 v_2}{6\omega^3}\frac{\partial^4 v_2}{\partial t\partial x_2^2\partial x_3} + (34cs^2\omega^2 - 2cs^2\omega^3 - 2v_2^2\omega^2 + 60cs^2 + v_2^2\omega^3 - 90cs^2\omega)\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_2^2\partial x_3}$$
$$+ (-12cs^2\omega^2 + cs^2\omega^3 - 60v_2^2\omega + 24v_2^2\omega^2 - 20cs^2 - 2v_2^2\omega^3 + 40v_2^2 + 30cs^2\omega)\frac{\delta_l^4 v_1 v_3}{\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1\partial x_2^2\partial x_3} +$$
$$(-56cs^2\omega^2 + 4cs^2\omega^3 - 126v_2^2\omega + 52v_2^2\omega^2 - 96cs^2 - 5v_2^2\omega^3 + 84v_2^2 + 144cs^2\omega)\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1\partial x_2^2\partial x_3} +$$
$$(132 - 5\omega^3 + 76\omega^2 - 198\omega)\frac{\delta_l^4\rho v_1 v_3 v_2}{6\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2^2\partial x_3} +$$
$$(-56cs^2\omega^2 + 4cs^2\omega^3 - 126v_2^2\omega + 52v_2^2\omega^2 - 96cs^2 - 5v_2^2\omega^3 + 84v_2^2 + 144cs^2\omega)\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1\partial x_2^2\partial x_3} +$$
$$(24 - 72cs^2\omega^2 + 6cs^2\omega^3 - 120cs^2 + 180cs^2\omega - \omega^3 + 14\omega^2 - 36\omega)\frac{\delta_l^4 v_3 v_2}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_2^3\partial x_3} + C_{14}\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_2^3\partial x_3} +$$
$$C_{15}\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_2^3\partial x_3} + (-2 - \omega^2 + 3\omega)\frac{3\delta_l^2\delta_t\rho v_3}{2\omega^3}\frac{\partial^4 v_3}{\partial t^2\partial x_3^2} +$$
$$(34cs^2\omega^2 - 2v_3^2\omega^2 + v_3^2\omega^3 - 2cs^2\omega^3 + 60cs^2 - 90cs^2\omega)\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_3^2} + (-24 + \omega^3 - 14\omega^2 + 36\omega)\frac{\delta_l^3\rho v_1 v_3}{6\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_3^2}$$
$$+ C_{16}\frac{\delta_l^4}{4\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_3^2} + (-26cs^2\omega^2 + 50v_3^2\omega^2 - 4v_3^2\omega^3 + cs^2\omega^3 + 84v_3^2 - 48cs^2 + 72cs^2\omega - 126v_3^2\omega)\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_3^2} +$$
$$(-26cs^2\omega^2 + 84v_1^2 + cs^2\omega^3 - 48cs^2 + 72cs^2\omega + 50v_1^2\omega^2 - 4v_1^2\omega^3 - 126v_1^2\omega)\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1^2\partial x_3^2} +$$
$$(34cs^2\omega^2 - 2v_3^2\omega^2 + v_3^2\omega^3 - 2cs^2\omega^3 + 60cs^2 - 90cs^2\omega)\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_2}{\partial t\partial x_2\partial x_3^2} + (-24 + \omega^3 - 14\omega^2 + 36\omega)\frac{\delta_l^3\rho v_3 v_2}{6\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_2\partial x_3^2}$$
$$+ (-12cs^2\omega^2 + 24v_3^2\omega^2 - 2v_3^2\omega^3 + cs^2\omega^3 + 40v_3^2 - 20cs^2 + 30cs^2\omega - 60v_3^2\omega)\frac{\delta_l^4 v_1 v_2}{\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1\partial x_2\partial x_3^2} +$$
$$(-56cs^2\omega^2 + 52v_3^2\omega^2 - 5v_3^2\omega^3 + 4cs^2\omega^3 + 84v_3^2 - 96cs^2 + 144cs^2\omega - 126v_3^2\omega)\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1\partial x_2\partial x_3^2} +$$
$$(-56cs^2\omega^2 + 52v_3^2\omega^2 - 5v_3^2\omega^3 + 4cs^2\omega^3 + 84v_3^2 - 96cs^2 + 144cs^2\omega - 126v_3^2\omega)\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2\partial x_3^2} +$$
$$(132 - 5\omega^3 + 76\omega^2 - 198\omega)\frac{\delta_l^4\rho v_1 v_3 v_2}{6\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1\partial x_2\partial x_3^2} + C_{17}\frac{\delta_l^4}{4\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_2^2\partial x_3^2} +$$

$$(-26cs^2\omega^2+50v_3^2\omega^2-4v_3^2\omega^3+cs^2\omega^3+84v_3^2-48cs^2+72cs^2\omega-126v_3^2\omega)\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_2^2\partial x_3^2}+$$
$$(-26cs^2\omega^2+cs^2\omega^3-126v_2^2\omega+50v_2^2\omega^2-48cs^2-4v_2^2\omega^3+84v_2^2+72cs^2\omega)\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_2^2\partial x_3^2}+C_{18}\frac{\delta_l^3\rho}{12\omega^3}\frac{\partial^4 v_3}{\partial t\partial x_3^3}+$$
$$(24-72cs^2\omega^2+6cs^2\omega^3-120cs^2+180cs^2\omega-\omega^3+14\omega^2-36\omega)\frac{\delta_l^4 v_1 v_3}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_1\partial x_3^3}+C_{19}\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_1}{\partial x_1\partial x_3^3}+$$
$$C_{20}\frac{\delta_l^4\rho v_1}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_1\partial x_3^3}+(24-72cs^2\omega^2+6cs^2\omega^3-120cs^2+180cs^2\omega-\omega^3+14\omega^2-36\omega)\frac{\delta_l^4 v_3 v_2}{6\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_2\partial x_3^3}+$$
$$C_{21}\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_2}{\partial x_2\partial x_3^3}+C_{22}\frac{\delta_l^4\rho v_2}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_2\partial x_3^3}+C_{23}\frac{\delta_l^4}{24\delta_t\omega^3}\frac{\partial^4\rho}{\partial x_3^4}+C_{24}\frac{\delta_l^4\rho v_3}{12\delta_t\omega^3}\frac{\partial^4 v_3}{\partial x_3^4}=0,$$

where:

$C_1=-36+34cs^2\omega^2+72v_1^2-2cs^2\omega^3+60cs^2-90cs^2\omega+\omega^3+42v_1^2\omega^2-20\omega^2-3v_1^2\omega^3+54\omega-108v_1^2\omega$

$C_2=-14cs^2\omega^2+3v_1^4\omega^3-84v_1^2cs^2\omega^2+72v_1^2-42v_1^4\omega^2+cs^2\omega^3+6v_1^2cs^2\omega^3+108v_1^4\omega-24cs^2+216v_1^2cs^2\omega-144v_1^2cs^2+36cs^2\omega+42v_1^2\omega^2-3cs^4\omega^3+48cs^4+30cs^4\omega^2-3v_1^2\omega^3-72v_1^4-72cs^4\omega-108v_1^2\omega$

$C_3=24-26cs^2\omega^2-36v_1^2+cs^2\omega^3-48cs^2+72cs^2\omega-\omega^3-22v_1^2\omega^2+14\omega^2+2v_1^2\omega^3-36\omega+54v_1^2\omega$

$C_4=12-56cs^2\omega^2-12v_1^2+4cs^2\omega^3-96cs^2+144cs^2\omega-\omega^3-12v_1^2\omega^2+8\omega^2+3v_1^2\omega^3-18\omega+18v_1^2\omega$

$C_5=36-56cs^2\omega^2-36v_1^2+4cs^2\omega^3-96cs^2+144cs^2\omega-\omega^3-20v_1^2\omega^2+20\omega^2+v_1^2\omega^3-54\omega+54v_1^2\omega$

$C_6=-14v_1^2cs^2\omega^2-84v_1^2v_2^2\omega+36cs^2v_2^2\omega+v_1^2cs^2\omega^3-14cs^2v_2^2\omega^2+56v_1^2v_2^2+34v_1^2v_2^2\omega^2+36v_1^2cs^2\omega+cs^2v_2^2\omega^3-24v_1^2cs^2-3v_1^2v_2^2\omega^3-cs^4\omega^3+16cs^4+10cs^4\omega^2-24cs^4\omega-24cs^2v_2^2$

$C_7=-36+34cs^2\omega^2-2cs^2\omega^3-108v_2^2\omega+42v_2^2\omega^2+60cs^2-3v_2^2\omega^3+72v_2^2-90cs^2\omega+\omega^3-20\omega^2+54\omega$

$C_8=36-56cs^2\omega^2+4cs^2\omega^3+54v_2^2\omega-20v_2^2\omega^2-96cs^2+v_2^2\omega^3-36v_2^2+144cs^2\omega-\omega^3+20\omega^2-54\omega$

$C_9=12-56cs^2\omega^2+4cs^2\omega^3+18v_2^2\omega-12v_2^2\omega^2-96cs^2+3v_2^2\omega^3-12v_2^2+144cs^2\omega-\omega^3+8\omega^2-18\omega$

$C_{10}=-14cs^2\omega^2+cs^2\omega^3-108v_2^2\omega+216cs^2v_2^2\omega+42v_2^2\omega^2-84cs^2v_2^2\omega^2-24cs^2+6cs^2v_2^2\omega^3-3v_2^2\omega^3+72v_2^2+36cs^2\omega-3cs^4\omega^3+48cs^4+108v_2^4\omega-72v_2^4+30cs^4\omega^2+3v_2^4\omega^3-72cs^4\omega-144cs^2v_2^2-42v_2^4\omega^2$

$C_{11}=24-26cs^2\omega^2+cs^2\omega^3+54v_2^2\omega-22v_2^2\omega^2-48cs^2+2v_2^2\omega^3-36v_2^2+72cs^2\omega-\omega^3+14\omega^2-36\omega$

$C_{12}=12-56cs^2\omega^2-12v_1^2+4cs^2\omega^3-96cs^2+144cs^2\omega-\omega^3-12v_1^2\omega^2+8\omega^2+3v_1^2\omega^3-18\omega+18v_1^2\omega$

$C_{13}=36-56cs^2\omega^2-36v_1^2+4cs^2\omega^3-96cs^2+144cs^2\omega-\omega^3-20v_1^2\omega^2+20\omega^2+v_1^2\omega^3-54\omega+54v_1^2\omega$

$C_{14}=12-56cs^2\omega^2+4cs^2\omega^3+18v_2^2\omega-12v_2^2\omega^2-96cs^2+3v_2^2\omega^3-12v_2^2+144cs^2\omega-\omega^3+8\omega^2-18\omega$

$C_{15}=36-56cs^2\omega^2+4cs^2\omega^3+54v_2^2\omega-20v_2^2\omega^2-96cs^2+v_2^2\omega^3-36v_2^2+144cs^2\omega-\omega^3+20\omega^2-54\omega$

$C_{16}=-14cs^2v_3^2\omega^2-14v_1^2cs^2\omega^2+34v_1^2v_3^2\omega^2+cs^2v_3^2\omega^3-3v_1^2v_3^2\omega^3+v_1^2cs^2\omega^3+36v_1^2cs^2\omega-84v_1^2v_3^2\omega-24v_1^2cs^2+56v_1^2v_3^2+36cs^2v_3^2\omega-cs^4\omega^3+16cs^4+10cs^4\omega^2-24cs^4\omega-24cs^2v_3^2$

$C_{17}=-14cs^2v_3^2\omega^2+cs^2v_3^2\omega^3-84v_3^2v_2^2\omega+36cs^2v_2^2\omega+34v_3^2v_2^2\omega^2-14cs^2v_2^2\omega^2+cs^2v_2^2\omega^3-3v_3^2v_2^2\omega^3+36cs^2v_3^2\omega-cs^4\omega^3+16cs^4+10cs^4\omega^2-24cs^4\omega+56v_3^2v_2^2-24cs^2v_2^2-24cs^2v_3^2$

$C_{18}=-36+34cs^2\omega^2+42v_3^2\omega^2-3v_3^2\omega^3-2cs^2\omega^3+72v_3^2+60cs^2-90cs^2\omega-108v_3^2\omega+\omega^3-20\omega^2+54\omega$

$C_{19}=36-56cs^2\omega^2-20v_3^2\omega^2+v_3^2\omega^3+4cs^2\omega^3-36v_3^2-96cs^2+144cs^2\omega+54v_3^2\omega-\omega^3+20\omega^2-54\omega$

$C_{20}=12-56cs^2\omega^2-12v_3^2\omega^2+3v_3^2\omega^3+4cs^2\omega^3-12v_3^2-96cs^2+144cs^2\omega+18v_3^2\omega-\omega^3+8\omega^2-18\omega$

$C_{21}=36-56cs^2\omega^2-20v_3^2\omega^2+v_3^2\omega^3+4cs^2\omega^3-36v_3^2-96cs^2+144cs^2\omega+54v_3^2\omega-\omega^3+20\omega^2-54\omega$

$C_{22}=12-56cs^2\omega^2-12v_3^2\omega^2+3v_3^2\omega^3+4cs^2\omega^3-12v_3^2-96cs^2+144cs^2\omega+18v_3^2\omega-\omega^3+8\omega^2-18\omega$

$C_{23}=-84cs^2v_3^2\omega^2-14cs^2\omega^2+42v_3^2\omega^2-3v_3^2\omega^3+cs^2\omega^3+6cs^2v_3^2\omega^3+72v_3^2-24cs^2+216cs^2v_3^2\omega+36cs^2\omega-108v_3^2\omega+3v_3^4\omega^3-3cs^4\omega^3-72v_3^4+48cs^4+30cs^4\omega^2-42v_3^4\omega^2-72cs^4\omega+108v_3^4\omega-144cs^2v_3^2$

$C_{24}=24-26cs^2\omega^2-22v_3^2\omega^2+2v_3^2\omega^3+cs^2\omega^3-36v_3^2-48cs^2+72cs^2\omega+54v_3^2\omega-\omega^3+14\omega^2-36\omega$

2.2 MRT1

2.2.1 Definitions

Collision operator $\boldsymbol{C}$:

$$\boldsymbol{C}\left(\boldsymbol{f}\right) = \mathbf{M}^{-1}\mathbf{S}\left(\boldsymbol{\mu}^{(eq)} - \mathbf{M}\boldsymbol{f}\right),$$

where

$$\mathbf{S} = \mathrm{diag}(\omega_1, \omega_2, \omega_3, \omega_4, \omega_5, \omega_6, \omega_7),$$

$\omega_1, \omega_2, \ldots, \omega_7 \in (0, 2)$.

2.2.2 Conservation of mass equation

attached text file: `output_d3q7_ade_mrt1_symbolic_pde_00.txt`

$$\frac{\partial \rho}{\partial t} + \frac{v_1\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_1} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_1}{\partial x_1} + \frac{v_2\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_2} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_2}{\partial x_2} + \frac{v_3\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_3} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_3}{\partial x_3} + (-2+\omega_2)\frac{\delta_l}{2\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} +$$
$$(-2+\omega_2)\frac{v_1\delta_l^2}{2\delta_t\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1} + (-2+\omega_2)\frac{\rho\delta_l^2}{2\delta_t\omega_2}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + (2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + (\omega_3 - \omega_3\omega_2 + \omega_2)\frac{v_1\delta_l^2}{\omega_3\delta_t\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} +$$
$$(\omega_3 - \omega_3\omega_2 + \omega_2)\frac{\rho\delta_l^2}{\omega_3\delta_t\omega_2}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2} + (2-\omega_4)\frac{v_3\delta_l^2}{2\delta_t\omega_4}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3} + (-\omega_4\omega_2 + \omega_4 + \omega_2)\frac{v_1\delta_l^2}{\delta_t\omega_4\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3} +$$
$$(-\omega_4\omega_2 + \omega_4 + \omega_2)\frac{\rho\delta_l^2}{\delta_t\omega_4\omega_2}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3} + (-2+\omega_3)\frac{\delta_l}{2\omega_3}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t} + (\omega_3 - \omega_3\omega_2 + \omega_2)\frac{v_2\delta_l^2}{\omega_3\delta_t\omega_2}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1} +$$
$$(2-\omega_2)\frac{v_1\delta_l^2}{2\delta_t\omega_2}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1} + (-2+\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2} + (-2+\omega_3)\frac{\rho\delta_l^2}{2\omega_3\delta_t}\left(\frac{\partial v_2}{\partial x_2}\right)^2 + (2-\omega_4)\frac{v_3\delta_l^2}{2\delta_t\omega_4}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3} +$$
$$(\omega_3 - \omega_3\omega_4 + \omega_4)\frac{v_2\delta_l^2}{\omega_3\delta_t\omega_4}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3} + (\omega_3 - \omega_3\omega_4 + \omega_4)\frac{\rho\delta_l^2}{\omega_3\delta_t\omega_4}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3} + (-2+\omega_4)\frac{\delta_l}{2\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t} +$$
$$(-\omega_4\omega_2 + \omega_4 + \omega_2)\frac{v_3\delta_l^2}{\delta_t\omega_4\omega_2}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1} + (2-\omega_2)\frac{v_1\delta_l^2}{2\delta_t\omega_2}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1} + (\omega_3 - \omega_3\omega_4 + \omega_4)\frac{v_3\delta_l^2}{\omega_3\delta_t\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2} +$$
$$(2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2} + (-2+\omega_4)\frac{v_3\delta_l^2}{2\delta_t\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3} + (-2+\omega_4)\frac{\rho\delta_l^2}{2\delta_t\omega_4}\left(\frac{\partial v_3}{\partial x_3}\right)^2 + (-2+\omega_2)\frac{\rho\delta_l}{2\omega_2}\frac{\partial^2 v_1}{\partial t\partial x_1} +$$
$$(-2+\omega_2)\frac{cs^2\delta_l^2}{2\delta_t\omega_2}\frac{\partial^2 \rho}{\partial x_1^2} + (-2+\omega_2)\frac{v_1\rho\delta_l^2}{2\delta_t\omega_2}\frac{\partial^2 v_1}{\partial x_1^2} + (-2+\omega_3)\frac{\rho\delta_l}{2\omega_3}\frac{\partial^2 v_2}{\partial t\partial x_2} + (\omega_3 - \omega_3\omega_2 + \omega_2)\frac{v_2v_1\delta_l^2}{\omega_3\delta_t\omega_2}\frac{\partial^2 \rho}{\partial x_1\partial x_2} +$$
$$(2-\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_1}{\partial x_1\partial x_2} + (2-\omega_2)\frac{v_1\rho\delta_l^2}{2\delta_t\omega_2}\frac{\partial^2 v_2}{\partial x_1\partial x_2} + (-2+\omega_3)\frac{cs^2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_2^2} + (-2+\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_2}{\partial x_2^2} + (-2+\omega_4)\frac{\rho\delta_l}{2\omega_4}\frac{\partial^2 v_3}{\partial t\partial x_3}$$
$$+ (-\omega_4\omega_2 + \omega_4 + \omega_2)\frac{v_3v_1\delta_l^2}{\delta_t\omega_4\omega_2}\frac{\partial^2 \rho}{\partial x_1\partial x_3} + (2-\omega_4)\frac{v_3\rho\delta_l^2}{2\delta_t\omega_4}\frac{\partial^2 v_1}{\partial x_1\partial x_3} + (2-\omega_2)\frac{v_1\rho\delta_l^2}{2\delta_t\omega_2}\frac{\partial^2 v_3}{\partial x_1\partial x_3} +$$
$$(\omega_3 - \omega_3\omega_4 + \omega_4)\frac{v_3v_2\delta_l^2}{\omega_3\delta_t\omega_4}\frac{\partial^2 \rho}{\partial x_2\partial x_3} + (2-\omega_4)\frac{v_3\rho\delta_l^2}{2\delta_t\omega_4}\frac{\partial^2 v_2}{\partial x_2\partial x_3} + (2-\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_3}{\partial x_2\partial x_3} + (-2+\omega_4)\frac{cs^2\delta_l^2}{2\delta_t\omega_4}\frac{\partial^2 \rho}{\partial x_3^2} +$$
$$(-2+\omega_4)\frac{v_3\rho\delta_l^2}{2\delta_t\omega_4}\frac{\partial^2 v_3}{\partial x_3^2} + (12 - 12\omega_2 + \omega_2^2)\frac{\delta_t\rho\delta_l}{12\omega_2^2}\frac{\partial^3 v_1}{\partial t^2\partial x_1} + (12 + \omega_5\omega_2 - 6\omega_5 - 6\omega_2)\frac{v_1\rho\delta_l^2}{6\omega_5\omega_2}\frac{\partial^3 v_1}{\partial t\partial x_1^2} + C_1\frac{v_1\delta_l^3}{6\delta_t\omega_5\omega_2^2}\frac{\partial^3 \rho}{\partial x_1^3} +$$
$$C_2\frac{\rho\delta_l^3}{12\delta_t\omega_5\omega_2^2}\frac{\partial^3 v_1}{\partial x_1^3} + (12 + \omega_3^2 - 12\omega_3)\frac{\delta_t\rho\delta_l}{12\omega_3^2}\frac{\partial^3 v_2}{\partial t^2\partial x_2} + (3\omega_3^2 - 6\omega_3 + 9\omega_3\omega_2 - 2\omega_3^2\omega_2 - 6\omega_2)\frac{v_2\rho\delta_l^2}{6\omega_3^2\omega_2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_2} +$$
$$(-2\omega_3\omega_2^2 - 6\omega_3 + 9\omega_3\omega_2 - 6\omega_2 + 3\omega_2^2)\frac{v_1\rho\delta_l^2}{6\omega_3\omega_2^2}\frac{\partial^3 v_2}{\partial t\partial x_1\partial x_2} + C_3\frac{v_2\delta_l^3}{2\omega_3^2\delta_t\omega_5\omega_2^2}\frac{\partial^3 \rho}{\partial x_1^2\partial x_2} +$$
$$(-6\omega_3\omega_2^2 + 6\omega_3^2 - 6\omega_3^2\omega_2 + \omega_3^2\omega_2^2 + 6\omega_2^2)\frac{v_2v_1\rho\delta_l^3}{6\omega_3^2\delta_t\omega_2^2}\frac{\partial^3 v_1}{\partial x_1^2\partial x_2} +$$
$$(6v_1^2\omega_2^2 - 3cs^2\omega_5\omega_2^2 - 12cs^2\omega_2 + 18cs^2\omega_5\omega_2 + 6cs^2\omega_2^2 - 12v_1^2\omega_2 + 12v_1^2\omega_5 + v_1^2\omega_5\omega_2^2 - 6v_1^2\omega_5\omega_2 - 12cs^2\omega_5)\frac{\rho\delta_l^3}{12\delta_t\omega_5\omega_2^2}\frac{\partial^3 v_2}{\partial x_1^2\partial x_2}$$
$$+ (12 - 6\omega_6 - 6\omega_3 + \omega_6\omega_3)\frac{v_2\rho\delta_l^2}{6\omega_6\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_2^2} + C_4\frac{v_1\delta_l^3}{2\omega_6\omega_3^2\delta_t\omega_2^2}\frac{\partial^3 \rho}{\partial x_1\partial x_2^2} + (-12\omega_6cs^2 + 18\omega_6\omega_3cs^2 - 12\omega_3v_2^2 + 6\omega_3^2cs^2 +$$
$$\omega_6\omega_3^2v_2^2 + 12\omega_6v_2^2 - 6\omega_6\omega_3v_2^2 - 12\omega_3cs^2 + 6\omega_3^2v_2^2 - 3\omega_6\omega_3^2cs^2)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2^2} +$$
$$(-6\omega_3\omega_2^2 + 6\omega_3^2 - 6\omega_3^2\omega_2 + \omega_3^2\omega_2^2 + 6\omega_2^2)\frac{v_2v_1\rho\delta_l^3}{6\omega_3^2\delta_t\omega_2^2}\frac{\partial^3 v_2}{\partial x_1\partial x_2^2} + C_5\frac{v_2\delta_l^3}{6\omega_6\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_2^3} + C_6\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^3} +$$
$$(12 - 12\omega_4 + \omega_4^2)\frac{\delta_t\rho\delta_l}{12\omega_4^2}\frac{\partial^3 v_3}{\partial t^2\partial x_3} + (9\omega_4\omega_2 - 6\omega_4 + 3\omega_4^2 - 6\omega_2 - 2\omega_4^2\omega_2)\frac{v_3\rho\delta_l^2}{6\omega_4^2\omega_2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_3} +$$
$$(9\omega_4\omega_2 - 2\omega_4\omega_2^2 - 6\omega_4 - 6\omega_2 + 3\omega_2^2)\frac{v_1\rho\delta_l^2}{6\omega_4\omega_2^2}\frac{\partial^3 v_3}{\partial t\partial x_1\partial x_3} + C_7\frac{v_3\delta_l^3}{2\delta_t\omega_4^2\omega_5\omega_2^2}\frac{\partial^3 \rho}{\partial x_1^2\partial x_3} +$$
$$(-6\omega_4\omega_2^2 + \omega_4^2\omega_2^2 + 6\omega_4^2 - 6\omega_4^2\omega_2 + 6\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\delta_t\omega_4^2\omega_2^2}\frac{\partial^3 v_1}{\partial x_1^2\partial x_3} +$$

$$(6v_1^2\omega_2^2-3cs^2\omega_5\omega_2^2-12cs^2\omega_2+18cs^2\omega_5\omega_2+6cs^2\omega_2^2-12v_1^2\omega_2+12v_1^2\omega_5+v_1^2\omega_5\omega_2^2-6v_1^2\omega_5\omega_2-12cs^2\omega_5)\frac{\rho\delta_l^3}{12\delta_t\omega_5\omega_2^2}\frac{\partial^3 v_3}{\partial x_1^2\partial x_3}$$
$$+(-6\omega_3+9\omega_3\omega_4-2\omega_3\omega_4^2-6\omega_4+3\omega_4^2)\frac{v_3\rho\delta_l^2}{6\omega_3\omega_4^2}\frac{\partial^3 v_2}{\partial t\partial x_2\partial x_3}+(3\omega_3^2-6\omega_3+9\omega_3\omega_4-6\omega_4-2\omega_3^2\omega_4)\frac{v_2\rho\delta_l^2}{6\omega_3^2\omega_4}\frac{\partial^3 v_3}{\partial t\partial x_2\partial x_3}+$$
$$(\omega_3\omega_4^2\omega_2+\omega_3^2\omega_4\omega_2-2\omega_3^2\omega_4\omega_2^2-2\omega_3\omega_4^2\omega_2^2+\omega_3\omega_4\omega_2^2+\omega_3^2\omega_4^2+\omega_4^2\omega_2^2+\omega_3^2\omega_4^2\omega_2^2-2\omega_3^2\omega_4^2\omega_2+\omega_3^2\omega_2^2)\frac{2v_3v_2v_1\delta_l^3}{\omega_3^2\delta_t\omega_4^2\omega_2^2}\frac{\partial^3\rho}{\partial x_1\partial x_2\partial x_3}$$
$$+(3\omega_3^2+6\omega_3\omega_4-6\omega_3\omega_4^2+2\omega_3^2\omega_4^2+3\omega_4^2-6\omega_3^2\omega_4)\frac{v_3v_2\rho\delta_l^3}{3\omega_3^2\delta_t\omega_4^2}\frac{\partial^3 v_1}{\partial x_1\partial x_2\partial x_3}+$$
$$(6\omega_4\omega_2-6\omega_4\omega_2^2+2\omega_4^2\omega_2^2+3\omega_4^2-6\omega_4^2\omega_2+3\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{3\delta_t\omega_4^2\omega_2^2}\frac{\partial^3 v_2}{\partial x_1\partial x_2\partial x_3}+$$
$$(-6\omega_3\omega_2^2+3\omega_3^2+6\omega_3\omega_2-6\omega_3^2\omega_2+2\omega_3^2\omega_2^2+3\omega_2^2)\frac{v_2v_1\rho\delta_l^3}{3\omega_3^2\delta_t\omega_2^2}\frac{\partial^3 v_3}{\partial x_1\partial x_2\partial x_3}+C_8\frac{v_3\delta_l^3}{2\omega_6\omega_3^2\delta_t\omega_4^2}\frac{\partial^3\rho}{\partial x_2^2\partial x_3}+$$
$$(6\omega_3^2-6\omega_3\omega_4^2+\omega_3^2\omega_4^2+6\omega_4^2-6\omega_3^2\omega_4)\frac{v_3v_2\rho\delta_l^3}{6\omega_3^2\delta_t\omega_4^2}\frac{\partial^3 v_2}{\partial x_2^2\partial x_3}+(-12\omega_6cs^2+18\omega_6\omega_3cs^2-12\omega_3v_2^2+6\omega_3^2cs^2+\omega_6\omega_3^2v_2^2+$$
$$12\omega_6v_2^2-6\omega_6\omega_3v_2^2-12\omega_3cs^2+6\omega_3^2v_2^2-3\omega_6\omega_3^2cs^2)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2^2\partial x_3}+(12-6\omega_7-6\omega_4+\omega_7\omega_4)\frac{v_3\rho\delta_l^2}{6\omega_7\omega_4}\frac{\partial^3 v_3}{\partial t\partial x_3^2}+$$
$$C_9\frac{v_1\delta_l^3}{2\delta_t\omega_7\omega_4^2\omega_2^2}\frac{\partial^3\rho}{\partial x_1\partial x_3^2}+(-6v_3^2\omega_7\omega_4+6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2+v_3^2\omega_7\omega_4^2-12v_3^2\omega_4+6v_3^2\omega_4^2+18\omega_7\omega_4cs^2+$$
$$12v_3^2\omega_7-12\omega_4cs^2)\frac{\rho\delta_l^3}{12\delta_t\omega_7\omega_4^2}\frac{\partial^3 v_1}{\partial x_1\partial x_3^2}+(-6\omega_4\omega_2^2+\omega_4^2\omega_2^2+6\omega_4^2-6\omega_4^2\omega_2+6\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\delta_t\omega_4^2\omega_2^2}\frac{\partial^3 v_3}{\partial x_1\partial x_3^2}+$$
$$C_{10}\frac{v_2\delta_l^3}{2\omega_3^2\delta_t\omega_7\omega_4^2}\frac{\partial^3\rho}{\partial x_2\partial x_3^2}+(-6v_3^2\omega_7\omega_4+6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2+v_3^2\omega_7\omega_4^2-12v_3^2\omega_4+6v_3^2\omega_4^2+18\omega_7\omega_4cs^2+$$
$$12v_3^2\omega_7-12\omega_4cs^2)\frac{\rho\delta_l^3}{12\delta_t\omega_7\omega_4^2}\frac{\partial^3 v_2}{\partial x_2\partial x_3^2}+(6\omega_3^2-6\omega_3\omega_4^2+\omega_3^2\omega_4^2+6\omega_4^2-6\omega_3^2\omega_4)\frac{v_3v_2\rho\delta_l^3}{6\omega_3^2\delta_t\omega_4^2}\frac{\partial^3 v_3}{\partial x_2\partial x_3^2}+C_{11}\frac{v_3\delta_l^3}{6\delta_t\omega_7\omega_4^2}\frac{\partial^3\rho}{\partial x_3^3}+$$
$$C_{12}\frac{\rho\delta_l^3}{12\delta_t\omega_7\omega_4^2}\frac{\partial^3 v_3}{\partial x_3^3}+(-2+3\omega_2-\omega_2^2)\frac{\delta_t^2\rho\delta_l}{2\omega_2^3}\frac{\partial^4 v_1}{\partial t^3\partial x_1}+$$
$$(-4\omega_5\omega_2+2\omega_5^2-2\omega_5\omega_2^3+8\omega_5\omega_2^2-\omega_5^2\omega_2^2+2\omega_2^3-\omega_5^2\omega_2-4\omega_2^2)\frac{\delta_t v_1\rho\delta_l^2}{2\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1^2}+C_{13}\frac{\rho\delta_l^3}{12\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^3}+$$
$$C_{14}\frac{\delta_l^4}{24\delta_t\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^4}+C_{15}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^4}+(-2-\omega_3^2+3\omega_3)\frac{\delta_t^2\rho\delta_l}{2\omega_3^3}\frac{\partial^4 v_2}{\partial t^3\partial x_2}+$$
$$(-24\omega_3\omega_2^2+12\omega_3^2-6\omega_3^3+12\omega_3\omega_2-24\omega_3^2\omega_2-\omega_3^3\omega_2^2+7\omega_3^3\omega_2+13\omega_3^2\omega_2^2+12\omega_2^2)\frac{\delta_t v_2\rho\delta_l^2}{12\omega_3^3\omega_2^2}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_2}+$$
$$(-24\omega_3\omega_2^2+12\omega_3^2+7\omega_3\omega_2^3+12\omega_3\omega_2-24\omega_3^2\omega_2-\omega_3^2\omega_2^3-6\omega_2^3+13\omega_3^2\omega_2^2+12\omega_2^2)\frac{\delta_t v_1\rho\delta_l^2}{12\omega_3^2\omega_2^3}\frac{\partial^4 v_2}{\partial t^2\partial x_1\partial x_2}+$$
$$C_{16}\frac{v_2v_1\rho\delta_l^3}{6\omega_3^3\omega_5\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_2}+C_{17}\frac{\rho\delta_l^3}{12\omega_3\omega_5^2\omega_2^3}\frac{\partial^4 v_2}{\partial t\partial x_1^2\partial x_2}+C_{18}\frac{v_2v_1\delta_l^4}{6\omega_3^3\delta_t\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^3\partial x_2}+C_{19}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^3\partial x_2}+$$
$$C_{20}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_2}{\partial x_1^3\partial x_2}+(-4\omega_3^2-4\omega_6\omega_3+2\omega_3^3+2\omega_6^2+8\omega_6\omega_3^2-2\omega_6\omega_3^3-\omega_6^2\omega_3^2-\omega_6^2\omega_3)\frac{\delta_t v_2\rho\delta_l^2}{2\omega_6^2\omega_3^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2^2}+$$
$$C_{21}\frac{\rho\delta_l^3}{12\omega_6^2\omega_3^3\omega_2}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2^2}+C_{22}\frac{v_2v_1\rho\delta_l^3}{6\omega_6\omega_3^3\omega_2^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2^2}+C_{23}\frac{\delta_l^4}{4\omega_6^2\omega_3^3\delta_t\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2}+C_{24}\frac{v_1\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2^2}+$$
$$C_{25}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2^2}+C_{26}\frac{\rho\delta_l^3}{12\omega_6^2\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_2^3}+C_{27}\frac{v_2v_1\delta_l^4}{6\omega_6^2\omega_3^3\delta_t\omega_2^3}\frac{\partial^4\rho}{\partial x_1\partial x_2^3}+C_{28}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2^3}+C_{29}\frac{v_1\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_2^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2^3}$$
$$+C_{30}\frac{\delta_l^4}{24\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^4}+C_{31}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^4}+(-2+3\omega_4-\omega_4^2)\frac{\delta_t^2\rho\delta_l}{2\omega_4^3}\frac{\partial^4 v_3}{\partial t^3\partial x_3}+$$
$$(12\omega_4\omega_2-24\omega_4\omega_2^2+7\omega_4^3\omega_2-6\omega_4^3+13\omega_4^2\omega_2^2+12\omega_4^2-24\omega_4^2\omega_2-\omega_4^3\omega_2^2+12\omega_2^2)\frac{\delta_t v_3\rho\delta_l^2}{12\omega_4^3\omega_2^2}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_3}+$$
$$(12\omega_4\omega_2-24\omega_4\omega_2^2+7\omega_4\omega_2^3-\omega_4^2\omega_2^3+13\omega_4^2\omega_2^2+12\omega_4^2-6\omega_2^3-24\omega_4^2\omega_2+12\omega_2^2)\frac{\delta_t v_1\rho\delta_l^2}{12\omega_4^2\omega_2^3}\frac{\partial^4 v_3}{\partial t^2\partial x_1\partial x_3}+$$
$$C_{32}\frac{v_3v_1\rho\delta_l^3}{6\omega_4^3\omega_5\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_3}+C_{33}\frac{\rho\delta_l^3}{12\omega_4\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1^2\partial x_3}+C_{34}\frac{v_3v_1\delta_l^4}{6\delta_t\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^3\partial x_3}+C_{35}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^3\partial x_3}+$$
$$C_{36}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial x_1^3\partial x_3}+$$
$$(12\omega_3^2+12\omega_3\omega_4-24\omega_3\omega_4^2+7\omega_3\omega_4^3-\omega_3^2\omega_4^3-6\omega_4^3+13\omega_3^2\omega_4^2+12\omega_4^2-24\omega_3^2\omega_4)\frac{\delta_t v_3\rho\delta_l^2}{12\omega_3^2\omega_4^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2\partial x_3}+$$
$$(12\omega_3^2-6\omega_3^3+12\omega_3\omega_4-24\omega_3\omega_4^2+7\omega_3^3\omega_4+13\omega_3^2\omega_4^2+12\omega_4^2-24\omega_3^2\omega_4-\omega_3^3\omega_2^2)\frac{\delta_t v_2\rho\delta_l^2}{12\omega_3^3\omega_4^2}\frac{\partial^4 v_3}{\partial t^2\partial x_2\partial x_3}+$$
$$C_{37}\frac{v_3v_2\rho\delta_l^3}{6\omega_3^3\omega_4^3\omega_2}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2\partial x_3}+C_{38}\frac{v_3v_1\rho\delta_l^3}{6\omega_3\omega_4^3\omega_2^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2\partial x_3}+C_{39}\frac{v_2v_1\rho\delta_l^3}{6\omega_3^3\omega_4\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_2\partial x_3}+C_{40}\frac{v_3v_2\delta_l^4}{\omega_3^3\delta_t\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_2\partial x_3}+$$
$$C_{41}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_3^3\delta_t\omega_4^3\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2\partial x_3}+C_{42}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2\partial x_3}+C_{43}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial x_1^2\partial x_2\partial x_3}+C_{44}\frac{v_3v_2\rho\delta_l^3}{6\omega_6\omega_3^3\omega_4^3}\frac{\partial^4 v_2}{\partial t\partial x_2^2\partial x_3}+$$
$$C_{45}\frac{\rho\delta_l^3}{12\omega_6^2\omega_3^3\omega_4}\frac{\partial^4 v_3}{\partial t\partial x_2^2\partial x_3}+C_{46}\frac{v_3v_1\delta_l^4}{\omega_6^2\omega_3^3\delta_t\omega_4^3\omega_2^3}\frac{\partial^4\rho}{\partial x_1\partial x_2^2\partial x_3}+C_{47}\frac{v_3\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_4^3}\frac{\partial^4 v_1}{\partial x_1\partial x_2^2\partial x_3}+C_{48}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_3^3\delta_t\omega_4^3\omega_2^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2^2\partial x_3}+$$
$$C_{49}\frac{v_1\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_2^3}\frac{\partial^4 v_3}{\partial x_1\partial x_2^2\partial x_3}+C_{50}\frac{v_3v_2\delta_l^4}{6\omega_6^2\omega_3^3\delta_t\omega_4^3}\frac{\partial^4\rho}{\partial x_2^3\partial x_3}+C_{51}\frac{v_3\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_4^3}\frac{\partial^4 v_2}{\partial x_2^3\partial x_3}+C_{52}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2^3\partial x_3}+$$

$$(-\omega_7^2\omega_4-\omega_7^2\omega_4^2+2\omega_4^3-2\omega_7\omega_4^3+8\omega_7\omega_4^2-4\omega_4^2-4\omega_7\omega_4+2\omega_7^2)\frac{\delta_t v_3\rho\delta_l^2}{2\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial t^2\partial x_3^2}+C_{53}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3\omega_2}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_3^2}+$$
$$C_{54}\frac{v_3v_1\rho\delta_l^3}{6\omega_7\omega_4^3\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_3^2}+C_{55}\frac{\delta_l^4}{4\delta_t\omega_7^2\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4\rho}{\partial x_1^2\partial x_3^2}+C_{56}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3\omega_2^3}\frac{\partial^4 v_1}{\partial x_1^2\partial x_3^2}+C_{57}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_4^3\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial x_1^2\partial x_3^2}+$$
$$C_{58}\frac{\rho\delta_l^3}{12\omega_3\omega_7^2\omega_4^3}\frac{\partial^4 v_2}{\partial t\partial x_2\partial x_3^2}+C_{59}\frac{v_3v_2\rho\delta_l^3}{6\omega_3^3\omega_7\omega_4^3}\frac{\partial^4 v_3}{\partial t\partial x_2\partial x_3^2}+C_{60}\frac{v_2v_1\delta_l^4}{\omega_3^3\delta_t\omega_7^2\omega_4^3\omega_2^3}\frac{\partial^4\rho}{\partial x_1\partial x_2\partial x_3^2}+C_{61}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_1}{\partial x_1\partial x_2\partial x_3^2}+$$
$$C_{62}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3\omega_2^3}\frac{\partial^4 v_2}{\partial x_1\partial x_2\partial x_3^2}+C_{63}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_3^3\delta_t\omega_4^3\omega_2^3}\frac{\partial^4 v_3}{\partial x_1\partial x_2\partial x_3^2}+C_{64}\frac{\delta_l^4}{4\omega_6^2\omega_3^3\delta_t\omega_7^2\omega_4^3}\frac{\partial^4\rho}{\partial x_2^2\partial x_3^2}+C_{65}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_2}{\partial x_2^2\partial x_3^2}+$$
$$C_{66}\frac{v_3\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t\omega_4^3}\frac{\partial^4 v_3}{\partial x_2^2\partial x_3^2}+C_{67}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial t\partial x_3^3}+C_{68}\frac{v_3v_1\delta_l^4}{6\delta_t\omega_7^2\omega_4^3\omega_2^3}\frac{\partial^4\rho}{\partial x_1\partial x_3^3}+C_{69}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_1}{\partial x_1\partial x_3^3}+C_{70}\frac{v_1\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3\omega_2^3}\frac{\partial^4 v_3}{\partial x_1\partial x_3^3}$$
$$+C_{71}\frac{v_3v_2\delta_l^4}{6\omega_3^3\delta_t\omega_7^2\omega_4^3}\frac{\partial^4\rho}{\partial x_2\partial x_3^3}+C_{72}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_2}{\partial x_2\partial x_3^3}+C_{73}\frac{v_2\rho\delta_l^4}{12\omega_3^3\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial x_2\partial x_3^3}+C_{74}\frac{\delta_l^4}{24\delta_t\omega_7^2\omega_4^3}\frac{\partial^4\rho}{\partial x_3^4}+C_{75}\frac{v_3\rho\delta_l^4}{12\delta_t\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial x_3^4}$$
$$=0,$$

where:

$$C_1=-3\omega_5\omega_2+3v_1^2\omega_2^2-3cs^2\omega_5\omega_2^2-6cs^2\omega_2+15cs^2\omega_5\omega_2+3cs^2\omega_2^2+\omega_5\omega_2^2-6v_1^2\omega_2-v_1^2\omega_5\omega_2^2+3v_1^2\omega_5\omega_2+6\omega_2-12cs^2\omega_5-3\omega_2^2$$

$$C_2=-6\omega_5\omega_2+6v_1^2\omega_2^2-3cs^2\omega_5\omega_2^2-12cs^2\omega_2+18cs^2\omega_5\omega_2+6cs^2\omega_2^2+2\omega_5\omega_2^2-12v_1^2\omega_2-12v_1^2\omega_5-5v_1^2\omega_5\omega_2^2+18v_1^2\omega_5\omega_2+12\omega_2-12cs^2\omega_5-6\omega_2^2$$

$$C_3=\omega_3^2v_1^2\omega_2^2-3\omega_3v_1^2\omega_5\omega_2^2-\omega_3^2cs^2\omega_5\omega_2^2-2\omega_3^2cs^2\omega_2+\omega_3^2cs^2\omega_2^2+4\omega_3^2cs^2\omega_5\omega_2+2\omega_3v_1^2\omega_5\omega_2-2\omega_3^2v_1^2\omega_2+\omega_3cs^2\omega_5\omega_2^2+4\omega_3^2v_1^2\omega_5+\omega_3^2v_1^2\omega_5\omega_2^2+2v_1^2\omega_5\omega_2^2-4\omega_3^2v_1^2\omega_5\omega_2-2\omega_3cs^2\omega_5\omega_2-2\omega_3^2cs^2\omega_5$$

$$C_4=-\omega_6\omega_3^2cs^2\omega_2^2+\omega_6\omega_3^2v_2^2\omega_2^2+\omega_3^2cs^2\omega_2^2+\omega_3^2v_2^2\omega_2^2-3\omega_6\omega_3^2v_2^2\omega_2+\omega_6\omega_3^2cs^2\omega_2+2\omega_6\omega_3^2v_2^2-2\omega_3cs^2\omega_2^2-2\omega_3v_2^2\omega_2^2+2\omega_6\omega_3v_2^2\omega_2-2\omega_6\omega_3cs^2\omega_2+4\omega_6\omega_3cs^2\omega_2^2-4\omega_6\omega_3v_2^2\omega_2^2+4\omega_6v_2^2\omega_2^2-2\omega_6cs^2\omega_2^2$$

$$C_5=-12\omega_6cs^2+15\omega_6\omega_3cs^2-3\omega_3^2+6\omega_3-3\omega_6\omega_3-6\omega_3v_2^2+\omega_6\omega_3^2+3\omega_3^2cs^2-\omega_6\omega_3^2v_2^2+3\omega_6\omega_3v_2^2-6\omega_3cs^2+3\omega_3^2v_2^2-3\omega_6\omega_3^2cs^2$$

$$C_6=-12\omega_6cs^2+18\omega_6\omega_3cs^2-6\omega_3^2+12\omega_3-6\omega_6\omega_3-12\omega_3v_2^2+2\omega_6\omega_3^2+6\omega_3^2cs^2-5\omega_6\omega_3^2v_2^2-12\omega_6v_2^2+18\omega_6\omega_3v_2^2-12\omega_3cs^2+6\omega_3^2v_2^2-3\omega_6\omega_3^2cs^2$$

$$C_7=-2v_1^2\omega_4^2\omega_2-4v_1^2\omega_4^2\omega_5\omega_2-\omega_4^2cs^2\omega_5\omega_2^2+4\omega_4^2cs^2\omega_5\omega_2+v_1^2\omega_4^2\omega_5\omega_2^2+v_1^2\omega_4^2\omega_2^2-2\omega_4^2cs^2\omega_5-3v_1^2\omega_4\omega_5\omega_2^2+\omega_4cs^2\omega_5\omega_2^2-2\omega_4^2cs^2\omega_2+2v_1^2\omega_5\omega_2^2+\omega_4^2cs^2\omega_2^2-2\omega_4cs^2\omega_5\omega_2+4v_1^2\omega_4^2\omega_5+2v_1^2\omega_4\omega_5\omega_2$$

$$C_8=\omega_3^2v_2^2\omega_4^2+\omega_3^2\omega_4^2cs^2-3\omega_6\omega_3^2v_2^2\omega_4-2\omega_6\omega_3\omega_4cs^2+2\omega_6\omega_3^2v_2^2+\omega_6\omega_3^2v_2^2\omega_4^2-\omega_6\omega_3^2\omega_4^2cs^2+\omega_6\omega_3^2\omega_4cs^2-4\omega_6\omega_3v_2^2\omega_4^2-2\omega_6\omega_4^2cs^2+4\omega_6\omega_3\omega_4^2cs^2+4\omega_6v_2^2\omega_4^2-2\omega_3v_2^2\omega_4^2+2\omega_6\omega_3v_2^2\omega_4-2\omega_3\omega_4^2cs^2$$

$$C_9=-2\omega_4cs^2\omega_2^2-2\omega_7\omega_4cs^2\omega_2+4v_3^2\omega_7\omega_2^2+v_3^2\omega_7\omega_4^2\omega_2^2-3v_3^2\omega_7\omega_4^2\omega_2+2v_3^2\omega_7\omega_4^2+4\omega_7\omega_4cs^2\omega_2^2-2\omega_7cs^2\omega_2^2+v_3^2\omega_4^2\omega_2^2-2v_3^2\omega_4\omega_2^2+2v_3^2\omega_7\omega_4\omega_2-\omega_7\omega_4^2cs^2\omega_2^2+\omega_4^2cs^2\omega_2^2-4v_3^2\omega_7\omega_4\omega_2^2+\omega_7\omega_4^2cs^2\omega_2$$

$$C_{10}=\omega_3^2\omega_4^2cs^2-4\omega_3^2v_3^2\omega_7\omega_4-\omega_3^2\omega_7\omega_4^2cs^2-2\omega_3^2\omega_7cs^2-2\omega_3\omega_7\omega_4cs^2+2v_3^2\omega_7\omega_4^2+\omega_3^2v_3^2\omega_7\omega_4^2+2\omega_3v_3^2\omega_7\omega_4-2\omega_3^2v_3^2\omega_4+\omega_3\omega_7\omega_4^2cs^2+4\omega_3^2\omega_7\omega_4cs^2+\omega_3^2v_3^2\omega_4^2+4\omega_3^2v_3^2\omega_7-3\omega_3v_3^2\omega_7\omega_4^2-2\omega_3^2\omega_4cs^2$$

$$C_{11}=3v_3^2\omega_7\omega_4+3\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2-v_3^2\omega_7\omega_4^2+6\omega_4+\omega_7\omega_4^2-6v_3^2\omega_4-3\omega_4^2-3\omega_7\omega_4+3v_3^2\omega_4^2+15\omega_7\omega_4cs^2-6\omega_4cs^2$$

$$C_{12}=18v_3^2\omega_7\omega_4+6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2-5v_3^2\omega_7\omega_4^2+12\omega_4+2\omega_7\omega_4^2-12v_3^2\omega_4-6\omega_4^2-6\omega_7\omega_4+6v_3^2\omega_4^2+18\omega_7\omega_4cs^2-12v_3^2\omega_7-12\omega_4cs^2$$

$$C_{13}=-24\omega_5\omega_2+12v_1^2\omega_2^2+9cs^2\omega_5\omega_2^2-6v_1^2\omega_2^3-42v_1^2\omega_5^2\omega_2-36cs^2\omega_5\omega_2^2+24cs^2\omega_5\omega_2+12cs^2\omega_2^2+27v_1^2\omega_5^2\omega_2^2-9\omega_5\omega_2^3-6cs^2\omega_2^3+36\omega_5\omega_2^2-3v_1^2\omega_5^2\omega_2^3+15v_1^2\omega_5\omega_2^3+24cs^2\omega_5^2-11\omega_5^2\omega_2^2-48cs^2\omega_5^2\omega_2+\omega_5^2\omega_2^3-60v_1^2\omega_5\omega_2^2+48v_1^2\omega_5\omega_2+12v_1^2\omega_5^2+25cs^2\omega_5^2\omega_2^2+6\omega_2^3+12\omega_5^2\omega_2-12\omega_2^2-2cs^2\omega_5^2\omega_2^3$$

$$C_{14}=24cs^4\omega_5\omega_2+24v_1^2\omega_2^2-6cs^2\omega_5\omega_2^3-24v_1^4\omega_5^2\omega_2^2-12v_1^2\omega_2^3-24v_1^2\omega_5^2\omega_2+3v_1^4\omega_5^2\omega_2^3+24cs^2\omega_5\omega_2^2+24cs^4\omega_5^2+156v_1^2cs^2\omega_5^2\omega_2-24cs^2\omega_5\omega_2-72v_1^2cs^2\omega_5^2\omega_2^2-96v_1^2cs^2\omega_5^2+24v_1^2\omega_5^2\omega_2^2+6cs^4\omega_5\omega_2^3+6v_1^2cs^2\omega_5^2\omega_2^3+24v_1^4\omega_5^2\omega_2-24cs^4\omega_5\omega_2^2-3v_1^2\omega_5^2\omega_2^3-12v_1^2cs^2\omega_5\omega_2^3-24v_1^2cs^2\omega_2^2+12v_1^4\omega_2^3-48v_1^4\omega_5\omega_2+18v_1^2\omega_5\omega_2^3+24cs^4\omega_5^2\omega_2^2+12cs^2\omega_5^2\omega_2-24v_1^4\omega_2^2+12v_1^2cs^2\omega_2^3+48v_1^2cs^2\omega_5\omega_2^2-3cs^4\omega_5^2\omega_2^3-72v_1^2\omega_5\omega_2^2+48v_1^2\omega_5\omega_2-8cs^2\omega_5^2\omega_2^2-18v_1^4\omega_5\omega_2^3-24v_1^2cs^2\omega_5\omega_2-48cs^4\omega_5^2\omega_2+72v_1^4\omega_5\omega_2^2+cs^2\omega_5^2\omega_2^3$$

$$C_{15}=12\omega_5\omega_2-12v_1^2\omega_2^2-6cs^2\omega_5\omega_2^3+6v_1^2\omega_2^3+24v_1^2\omega_5^2\omega_2+24cs^2\omega_5\omega_2^2-12cs^2\omega_5\omega_2-12cs^2\omega_2^2-16v_1^2\omega_5^2\omega_2^2+6\omega_5\omega_2^3+6cs^2\omega_2^3-24\omega_5\omega_2^2+2v_1^2\omega_5^2\omega_2^3-6v_1^2\omega_5\omega_2^3-24cs^2\omega_5^2+8\omega_5^2\omega_2^2+42cs^2\omega_5^2\omega_2-\omega_5^2\omega_2^3+24v_1^2\omega_5\omega_2^2-12v_1^2\omega_5\omega_2-12v_1^2\omega_5^2-20cs^2\omega_5^2\omega_2^2-6\omega_2^3-6\omega_5^2\omega_2+12\omega_2^2+cs^2\omega_5^2\omega_2^3$$

$$C_{16}=-12\omega_3^2\omega_5\omega_2-12\omega_3^3\omega_5-7\omega_3^2\omega_5\omega_2^3-6\omega_5\omega_2^3+12\omega_3^2\omega_5\omega_2^2+12\omega_3\omega_5\omega_2^3+3\omega_3^3\omega_2^3+24\omega_3^3\omega_5\omega_2-6\omega_3^3\omega_2^2-6\omega_3\omega_5\omega_2^2-10\omega_3^3\omega_5\omega_2^2-6\omega_3^2\omega_2^3+\omega_3^3\omega_5\omega_2^3+12\omega_3^2\omega_2^2$$

$$C_{17}=9\omega_3v_1^2\omega_5\omega_2^3-6cs^2\omega_5\omega_2^3-24\omega_3v_1^2\omega_5^2-12v_1^2\omega_5^2\omega_2-30\omega_3v_1^2\omega_5\omega_2^2+12cs^2\omega_5\omega_2^2-30\omega_3cs^2\omega_5^2\omega_2+22\omega_3cs^2\omega_5^2\omega_2^2+12\omega_3v_1^2\omega_5\omega_2+6v_1^2\omega_5^2\omega_2^2+12\omega_3cs^2\omega_5^2-2\omega_3cs^2\omega_5^2\omega_2^3-v_1^2\omega_5^2\omega_2^3+12\omega_3cs^2\omega_2^2+9\omega_3cs^2\omega_5\omega_2^3-6v_1^2\omega_5\omega_2^3-30\omega_3cs^2\omega_5\omega_2^2+12cs^2\omega_5^2\omega_2-6\omega_3cs^2\omega_2^3+36\omega_3v_1^2\omega_5^2\omega_2+12v_1^2\omega_5\omega_2^2+12\omega_3v_1^2\omega_2^2-10\omega_3v_1^2\omega_5^2\omega_2^2-18cs^2\omega_5^2\omega_2^2+12\omega_3cs^2\omega_5\omega_2+\omega_3v_1^2\omega_5^2\omega_2^3-6\omega_3v_1^2\omega_2^3+3cs^2\omega_5^2\omega_2^3$$

$$C_{18}=-\omega_3^3\omega_5^2\omega_2^3+6\omega_3^2cs^2\omega_5\omega_2^3-36\omega_3^3cs^2\omega_5^2+12\omega_3^2v_1^2\omega_5^2\omega_2+7\omega_3^3\omega_5^2\omega_2^2-24\omega_3^3cs^2\omega_5\omega_2-12\omega_3^2cs^2\omega_5\omega_2^2+6\omega_3^3v_1^2\omega_5^2\omega_2^2-12\omega_3cs^2\omega_5^2\omega_2^2-30\omega_3^3v_1^2\omega_5^2\omega_2+42\omega_3^3cs^2\omega_5\omega_2^2-6\omega_3^3\omega_5^2\omega_2-12\omega_3^2v_1^2\omega_5^2\omega_2^2-3\omega_3^2\omega_5\omega_2^3+24\omega_3^3v_1^2\omega_5^2+6\omega_3cs^2\omega_5^2\omega_2^3+6v_1^2\omega_5^2\omega_2^3+6\omega_3^2\omega_5\omega_2^2-12\omega_3^3cs^2\omega_5\omega_2^3+$$

$$6\omega_3^2v_1^2\omega_5^2\omega_2^3 - 3\omega_3^2\omega_5^2\omega_2^2 + 6\omega_3^3v_1^2\omega_2^3 - 3\omega_3^3\omega_2^3 + 6\omega_3^2v_1^2\omega_5\omega_2^3 + 6\omega_3^3cs^2\omega_5^2\omega_2^3 - 24\omega_3^3cs^2\omega_5^2\omega_2 - 24\omega_3^3v_1^2\omega_5\omega_2 - 12\omega_3^2v_1^2\omega_5\omega_2^2 - 48\omega_3^3cs^2\omega_5^2\omega_2^2 + 12\omega_3^3\omega_5\omega_2 + 6\omega_3^3\omega_2^2 - 12\omega_3^3v_1^2\omega_2^2 + \omega_3^2\omega_5^2\omega_2^3 - 21\omega_3^3\omega_5\omega_2^2 + 78\omega_3^3cs^2\omega_2^2\omega_2 + 6\omega_3v_1^2\omega_5^2\omega_2^2 + 6\omega_3^3cs^2\omega_2^3 + 42\omega_3^3v_1^2\omega_5\omega_2^2 + 42\omega_3^2cs^2\omega_5^2\omega_2^2 - 12\omega_3v_1^2\omega_5^2\omega_2^3 + 6\omega_3^3\omega_5\omega_2^3 - 12\omega_3^3v_1^2\omega_5\omega_2^3 - 12\omega_3^2cs^2\omega_5^2\omega_2^3 - 12\omega_3^3cs^2\omega_2^2$$

$$C_{19} = -\omega_3^3\omega_5^2\omega_2^3 + 12\omega_3^2cs^2\omega_5\omega_2^3 + 3\omega_3^3v_1^2\omega_5^2\omega_2^3 - 12\omega_3^3cs^2\omega_5^2 + 3\omega_3^3\omega_5^2\omega_2^2 - 12\omega_3^3cs^2\omega_5\omega_2 - 24\omega_3^2cs^2\omega_5\omega_2^2 - 12\omega_3cs^2\omega_5^2\omega_2^2 - 30\omega_3^3v_1^2\omega_5^2\omega_2 + 36\omega_3^3cs^2\omega_5\omega_2^2 + 12\omega_3^2v_1^2\omega_5^2\omega_2^2 - 6\omega_3^2\omega_5\omega_2^3 + 24\omega_3^3v_1^2\omega_5^2 + 6\omega_3cs^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 + 12\omega_3^2\omega_5\omega_2^2 - 12\omega_3^3cs^2\omega_5\omega_2^3 - 6\omega_3^2\omega_5^2\omega_2^2 + 6\omega_3^3v_1^2\omega_2^3 + 12\omega_3^2v_1^2\omega_5\omega_2^3 + 4\omega_3^3cs^2\omega_5^2\omega_2^3 - 24\omega_3^3cs^2\omega_5^2\omega_2 - 12\omega_3^3v_1^2\omega_5\omega_2 - 24\omega_3^2v_1^2\omega_5\omega_2^2 - 32\omega_3^3cs^2\omega_5^2\omega_2^2 - 12\omega_3^3v_1^2\omega_2^2 + 2\omega_3^2\omega_5^2\omega_2^3 - 6\omega_3^3\omega_5\omega_2^2 + 36\omega_3^3cs^2\omega_5^2\omega_2 + 6\omega_3^3cs^2\omega_2^3 + 36\omega_3^3v_1^2\omega_5\omega_2^2 + 48\omega_3^2cs^2\omega_5^2\omega_2^2 - 18\omega_3v_1^2\omega_5^2\omega_2^3 + 3\omega_3^3\omega_5\omega_2^3 - 12\omega_3^3v_1^2\omega_5\omega_2^3 - 12\omega_3^2cs^2\omega_5^2\omega_2^3 - 12\omega_3^3cs^2\omega_2^2$$

$$C_{20} = 24\omega_5\omega_2 - 12v_1^2\omega_2^2 - 12cs^2\omega_5\omega_2^3 + 6v_1^2\omega_2^3 + 48cs^2\omega_5\omega_2^2 - 36cs^2\omega_5\omega_2 - 12cs^2\omega_2^2 - 8v_1^2\omega_5^2\omega_2^2 + 9\omega_5\omega_2^3 + 6cs^2\omega_2^3 - 36\omega_5\omega_2^2 + v_1^2\omega_5^2\omega_2^3 - 12v_1^2\omega_5\omega_2^3 - 48cs^2\omega_5^2 + 11\omega_5^2\omega_2^2 + 90cs^2\omega_5^2\omega_2 - \omega_5^2\omega_2^3 + 48v_1^2\omega_5\omega_2^2 - 36v_1^2\omega_5\omega_2 + 12v_1^2\omega_5^2 - 44cs^2\omega_5^2\omega_2^2 - 6\omega_2^3 - 12\omega_5^2\omega_2 + 12\omega_2^2 + 4cs^2\omega_5^2\omega_2^3$$

$$C_{21} = 36\omega_6^2\omega_3v_2^2\omega_2 - 30\omega_6^2\omega_3cs^2\omega_2 - 18\omega_6^2\omega_3^2cs^2 - 6\omega_6\omega_3^3v_2^2 + 12\omega_3^2v_2^2\omega_2 + 12\omega_3^2cs^2\omega_2 + 12\omega_6^2cs^2\omega_2 - 24\omega_6^2v_2^2\omega_2 - 12\omega_6^2\omega_3v_2^2 - 30\omega_6\omega_3^2v_2^2\omega_2 - 30\omega_6\omega_3^2cs^2\omega_2 + 12\omega_6\omega_3^2v_2^2 - 2\omega_6^2\omega_3^2cs^2\omega_2 + \omega_6^2\omega_3^3v_2^2\omega_2 + 3\omega_6^2\omega_3^2cs^2 - 6\omega_3^3cs^2\omega_2 - 6\omega_3^3v_2^2\omega_2 + 12\omega_6\omega_3v_2^2\omega_2 + 12\omega_6\omega_3cs^2\omega_2 + 6\omega_6^2\omega_3^2v_2^2 - 6\omega_6\omega_3^3cs^2 - 10\omega_6^2\omega_3^2v_2^2\omega_2 + 12\omega_6^2\omega_3cs^2 + 22\omega_6^2\omega_3^2cs^2\omega_2 + 12\omega_6\omega_3^2cs^2 + 9\omega_6\omega_3^3cs^2\omega_2 + 9\omega_6\omega_3^3v_2^2\omega_2 - \omega_6^2\omega_3^3v_2^2$$

$$C_{22} = -7\omega_6\omega_3^3\omega_2^2 + \omega_6\omega_3^3\omega_2^3 - 6\omega_6\omega_3^2\omega_2 + 12\omega_6\omega_3^2\omega_2^2 - 10\omega_6\omega_3^2\omega_2^3 + 12\omega_6\omega_3^3\omega_2 - 6\omega_6\omega_3^3 + 24\omega_6\omega_3\omega_2^3 + 3\omega_3^3\omega_2^2 - 12\omega_6\omega_3^2 - 6\omega_3^3\omega_2^2 - 12\omega_6\omega_3\omega_2^2 - 6\omega_3^2\omega_2^3 + 12\omega_3^2\omega_2^2$$

$$C_{23} = 20\omega_6^2v_2^2v_1^2\omega_5^2\omega_2^3 + 20\omega_6^2\omega_3^3v_2^2v_1^2\omega_5^2 + 10\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2 + 4\omega_6^2\omega_3^3cs^4\omega_5^2\omega_2^2 + 20\omega_6^2\omega_3^2v_2^2v_1^2\omega_5^2\omega_2^3 + 2\omega_6\omega_3^3v_1^2cs^2\omega_5^2\omega_2^2 - 2\omega_6\omega_3^3v_2^2cs^2\omega_5^2\omega_2^2 + 20\omega_6^2\omega_3v_2^2v_1^2\omega_5^2\omega_2^2 + 4\omega_6^2\omega_3^2cs^4\omega_5^2\omega_2 + 4\omega_6^2\omega_3^3v_1^2cs^2\omega_5^2\omega_2 + 10\omega_6^2\omega_3^3v_2^2v_1^2\omega_5\omega_2^2 + \omega_6\omega_3^3cs^4\omega_5^2\omega_2^3 - 3\omega_6\omega_3^3v_1^2cs^2\omega_5^2\omega_2^3 - 36\omega_6^2\omega_3^2v_2^2v_1^2\omega_5^2\omega_2^2 - \omega_6^2\omega_3^3cs^4\omega_5^2\omega_2^3 + 2\omega_3^3v_2^2v_1^2\omega_5^2\omega_2^3 - 2\omega_6\omega_3^3cs^4\omega_5^2\omega_2^2 - 3\omega_6^2\omega_3^3v_2^2v_1^2\omega_5\omega_2^2 - 38\omega_6^2\omega_3v_2^2v_1^2\omega_5^2\omega_2^3 + \omega_6\omega_3^3v_2^2cs^2\omega_5^2\omega_2^3 - 4\omega_6\omega_3^2v_2^2v_1^2\omega_5^2\omega_2^2 + 4\omega_6^2\omega_3^2cs^4\omega_5^2\omega_2^3 + \omega_6^2\omega_3^3v_1^2cs^2\omega_5^2\omega_2^3 - 4\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2 - 4\omega_6^2\omega_3^2v_2^2cs^2\omega_5\omega_2^2 + 20\omega_6^2\omega_3^2v_2^2v_1^2\omega_5^2\omega_2 + 4\omega_6^2\omega_3^2v_1^2cs^2\omega_5\omega_2^2 + 4\omega_6\omega_3^2cs^4\omega_5^2\omega_2^2 + \omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2^3 - 4\omega_6\omega_3v_2^2v_1^2\omega_5^2\omega_2^3 + 2\omega_6^2\omega_3^3v_2^2cs^2\omega_5\omega_2^3 - 4\omega_6^2\omega_3^3v_1^2cs^2\omega_5^2\omega_2^2 - 12\omega_6^2\omega_3^2cs^4\omega_5^2\omega_2^2 - 4\omega_6^2\omega_3^3v_2^2v_1^2\omega_5\omega_2 + 10\omega_6\omega_3^3v_2^2v_1^2\omega_5^2\omega_2^3 - 2\omega_6\omega_3^3cs^4\omega_5^2\omega_2^3 - 2\omega_6^2\omega_3^3cs^4\omega_5^2\omega_2 - 8\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2^2 - 2\omega_6^2\omega_3^2v_1^2cs^2\omega_5\omega_2^3 - 4\omega_3^3v_1^2cs^2\omega_5^2\omega_2^3 - 4\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2^3 - 4\omega_6^2\omega_3v_1^2cs^2\omega_5^2\omega_2^2 - 38\omega_6^2\omega_3^3v_2^2v_1^2\omega_5^2\omega_2 - 2\omega_6^2\omega_3^3v_1^2cs^2\omega_5\omega_2^2 + 4\omega_6^2\omega_3^2cs^4\omega_5\omega_2^2 + 10\omega_6^2\omega_3^3v_2^2cs^2\omega_5\omega_2^2 - 4\omega_6^2v_1^2cs^2\omega_5^2\omega_2^3 + 2\omega_6\omega_3^3v_2^2v_1^2\omega_5^2\omega_2^2 - 4\omega_6^2\omega_3^3v_2^2cs^2\omega_2^2 - 8\omega_6^2\omega_3^3v_1^2cs^2\omega_5^2\omega_2^3 - 8\omega_6^2\omega_3v_2^2cs^2\omega_5^2\omega_2^2 - 2\omega_6^2\omega_3^2cs^4\omega_5\omega_2^3 + \omega_6^2\omega_3^3v_1^2cs^2\omega_5\omega_2^3 + 2\omega_3^3v_1^2cs^2\omega_5^2\omega_2^3 + 12\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2^2 + 10\omega_6^2\omega_3v_1^2cs^2\omega_5^2\omega_2^3 + 12\omega_6^2\omega_3^2v_1^2cs^2\omega_5^2\omega_2^2 + 2\omega_6^2\omega_3^3v_2^2cs^2\omega_2^3 + 4\omega_6^2\omega_3v_2^2cs^2\omega_5^2\omega_2^3 - 3\omega_6\omega_3^3v_2^2v_1^2\omega_5^2\omega_2^3 - 3\omega_6^2\omega_3^3v_2^2cs^2\omega_5\omega_2^3 - 8\omega_6^2\omega_3^2v_1^2cs^2\omega_5^2\omega_2 - 4\omega_6^2\omega_3^3v_2^2v_1^2\omega_5\omega_2^2 + 4\omega_6\omega_3^3v_2^2cs^2\omega_5^2\omega_2^2 - 4\omega_6\omega_3v_1^2cs^2\omega_5^2\omega_2^2 - 4\omega_6^2\omega_3^3v_2^2cs^2\omega_5^2\omega_2 - 2\omega_6^2\omega_3^3cs^4\omega_5^2\omega_2^3 - 2\omega_6^2\omega_3^2cs^4\omega_5\omega_2^3 - 4\omega_6^2\omega_3^3v_2^2cs^2\omega_5\omega_2^3 - 4\omega_6^2\omega_3v_2^2v_1^2\omega_5^2\omega_2^3 + 2\omega_6^2\omega_3^3v_2^2v_1^2\omega_5\omega_2^2 + 4\omega_6^2\omega_3cs^4\omega_5^2\omega_2^2 + 2\omega_6^2\omega_3^3v_2^2v_1^2\omega_2^3 + 10\omega_6\omega_3^2v_1^2cs^2\omega_5^2\omega_2^3 + 20\omega_6^2\omega_3^3v_2^2v_1^2\omega_5^2\omega_2^2$$

$$C_{24} = 24\omega_6\omega_3^2cs^2\omega_2^3 + 22\omega_6^2\omega_3^3v_2^2\omega_2^2 - 6\omega_6^2\omega_3^3cs^2\omega_2^2 + 24\omega_6\omega_3^3v_2^2\omega_2^3 + 48\omega_6^2v_2^2\omega_2^3 - 12\omega_6^2cs^2\omega_2^3 - 4\omega_6^2\omega_3^3v_2^2\omega_2^3 + \omega_6^2\omega_3^3cs^2\omega_2^3 + 24\omega_6^2\omega_3cs^2\omega_2^3 - 78\omega_6^2\omega_3v_2^2\omega_2^3 - 12\omega_3^2cs^2\omega_2^3 - 12\omega_3^2v_2^2\omega_2^3 + 6\omega_6^2\omega_3^3cs^2\omega_2 - 30\omega_6^2\omega_3^3v_2^2\omega_2 + 24\omega_6^2\omega_3v_2^2\omega_2^2 - 14\omega_6^2\omega_3^2cs^2\omega_2^3 + 34\omega_6^2\omega_3^3v_2^2\omega_2^3 + 12\omega_6^2\omega_3^2cs^2\omega_2^2 - 6\omega_6\omega_3^3v_2^2\omega_2^3 - 6\omega_6\omega_3^3cs^2\omega_2^3 - 48\omega_6^2\omega_3^2v_2^2\omega_2^2 + 24\omega_6^2\omega_3^2v_2^2\omega_2 - 12\omega_6^2\omega_3^2cs^2\omega_2 - 12\omega_6\omega_3cs^2\omega_2^3 - 12\omega_6\omega_3v_2^2\omega_2^3 + 6\omega_3^3v_2^2\omega_2^3 + 6\omega_3^3cs^2\omega_2^3 + 12\omega_6^2\omega_3^3v_2^2$$

$$C_{25} = -4\omega_3^3v_1^2\omega_5^2\omega_2^3 - 12\omega_3^3cs^2\omega_5^2 + 24\omega_3^2v_1^2\omega_5^2\omega_2 - 12\omega_3^3cs^2\omega_5\omega_2 + 34\omega_3^3v_1^2\omega_5^2\omega_2^2 - 12\omega_3cs^2\omega_5^2\omega_2^2 - 78\omega_3^3v_1^2\omega_5^2\omega_2 + 24\omega_3^3cs^2\omega_5\omega_2^2 - 48\omega_3^2v_1^2\omega_5^2\omega_2^2 + 48\omega_3^3v_1^2\omega_5^2 + 6\omega_3cs^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 - 6\omega_3^3cs^2\omega_5\omega_2^3 + 22\omega_3^2v_1^2\omega_5^2\omega_2^3 + 6\omega_3^3v_1^2\omega_2^3 + \omega_3^3cs^2\omega_5^2\omega_2^3 - 12\omega_3^3v_1^2\omega_5\omega_2 - 14\omega_3^3cs^2\omega_5^2\omega_2^2 - 12\omega_3^3v_1^2\omega_2^2 + 24\omega_3^3cs^2\omega_5^2\omega_2 + 24\omega_3v_1^2\omega_5^2\omega_2^2 + 6\omega_3^3cs^2\omega_2^3 + 24\omega_3^3v_1^2\omega_5\omega_2^2 + 12\omega_3^2cs^2\omega_5^2\omega_2^2 - 30\omega_3v_1^2\omega_5^2\omega_2^3 - 6\omega_3^3v_1^2\omega_5\omega_2^3 - 6\omega_3^2cs^2\omega_5^2\omega_2^3 - 12\omega_3^3cs^2\omega_2^2$$

$$C_{26} = -6\omega_3^3cs^2 + 24\omega_6\omega_3cs^2 - 12\omega_3^2 - 24\omega_6\omega_3 + 25\omega_6^2\omega_3^2cs^2 + 15\omega_6\omega_3^3v_2^2 + 6\omega_3^3 - 42\omega_6^2\omega_3v_2^2 + 36\omega_6\omega_3^2 + 12\omega_3^2cs^2 + 12\omega_6^2v_2^2 - 60\omega_6\omega_3^2v_2^2 - 2\omega_6^2\omega_3^3cs^2 - 9\omega_6\omega_3^3 - 6\omega_3^3v_2^2 + 48\omega_6\omega_3v_2^2 + \omega_6^2\omega_3^3 + 27\omega_6^2\omega_3^2v_2^2 + 9\omega_6\omega_3^3cs^2 - 11\omega_6^2\omega_3^3 - 48\omega_6^2\omega_3cs^2 + 12\omega_6^2\omega_3 + 12\omega_3^2v_2^2 + 24\omega_6^2cs^2 - 36\omega_6\omega_3^2cs^2 - 3\omega_6^2\omega_3^3v_2^2$$

$$C_{27} = -3\omega_6\omega_3^3\omega_2^2 + 42\omega_6\omega_3^2cs^2\omega_2^3 + 6\omega_6^2\omega_3^3v_2^2\omega_2^2 - 12\omega_6^2\omega_3^3cs^2\omega_2^2 + 42\omega_6\omega_3^2v_2^2\omega_2^3 + 24\omega_6^2v_2^2\omega_2^3 - 36\omega_6^2cs^2\omega_2^3 - 12\omega_6\omega_3^2cs^2\omega_2^2 + 6\omega_6\omega_3^3\omega_2^3 - 12\omega_6\omega_3^2v_2^2\omega_2^2 + 6\omega_6^2\omega_3^3cs^2\omega_2^3 + 78\omega_6^2\omega_3cs^2\omega_2^3 - 30\omega_6^2\omega_3v_2^2\omega_2^3 - 6\omega_6^2\omega_3\omega_2^3 + 6\omega_6\omega_3^2\omega_2^2 - 12\omega_3^2cs^2\omega_2^3 - 12\omega_3^2v_2^2\omega_2^3 - 21\omega_6\omega_3^2\omega_2^3 + 6\omega_6^2\omega_3^3cs^2\omega_2 - 12\omega_6^2\omega_3^2v_2^2\omega_2 - 24\omega_6^2\omega_3cs^2\omega_2^2 + 12\omega_6^2\omega_3v_2^2\omega_2^2 - 3\omega_6^2\omega_3^2\omega_2^2 + 12\omega_6\omega_3v_2^2 - 3\omega_3^3\omega_2^2 + 6\omega_6\omega_3^3v_2^2\omega_2^2 - 48\omega_6^2\omega_3^2cs^2\omega_2^2 + 6\omega_6^2\omega_3^2v_2^2\omega_2^2 + 6\omega_6\omega_3^3cs^2\omega_2^2 + 42\omega_6^2\omega_3^2cs^2\omega_2^2 - 12\omega_6\omega_3^3v_2^2\omega_2^2 - 12\omega_6^2\omega_3^3cs^2\omega_2^2 - 12\omega_6^2\omega_3^2v_2^2\omega_2^2 + 7\omega_6^2\omega_3^2\omega_2^2 + 6\omega_6^2\omega_3^2v_2^2\omega_2 + 6\omega_3^2\omega_2^2 - 12\omega_6^2\omega_3^2cs^2\omega_2 - 24\omega_6\omega_3cs^2\omega_2^2 + \omega_6^2\omega_3^3\omega_2^2 - 24\omega_6\omega_3v_2^2\omega_2^2 + 6\omega_3^3v_2^2\omega_2^2 + 6\omega_3^3cs^2\omega_2^2 - \omega_6^2\omega_3^3\omega_2^2 + 6\omega_6^2\omega_3^3v_2^2$$

$$C_{28} = 6\omega_3^3cs^2 - 36\omega_6\omega_3cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 - 44\omega_6^2\omega_3^2cs^2 - 12\omega_6\omega_3^3v_2^2 - 6\omega_3^3 - 36\omega_6\omega_3^2 - 12\omega_3^2cs^2 + 12\omega_6^2v_2^2 + 48\omega_6\omega_3^2v_2^2 + 4\omega_6^2\omega_3^3cs^2 + 9\omega_6\omega_3^3 + 6\omega_3^3v_2^2 - 36\omega_6\omega_3v_2^2 - \omega_6^2\omega_3^3 - 8\omega_6^2\omega_3^2v_2^2 - 12\omega_6\omega_3^3cs^2 + 11\omega_6^2\omega_3^3 + 90\omega_6^2\omega_3cs^2 - 12\omega_6^2\omega_3 - 12\omega_3^2v_2^2 - 48\omega_6^2cs^2 + 48\omega_6\omega_3^2cs^2 + \omega_6^2\omega_3^3v_2^2$$

$$C_{29} = -6\omega_6\omega_3^3\omega_2^2 + 36\omega_6\omega_3^2cs^2\omega_2^3 - 12\omega_6^2\omega_3^3cs^2\omega_2^2 + 36\omega_6^2\omega_3^2v_2^2\omega_2^3 + 24\omega_6^2v_2^2\omega_2^3 - 12\omega_6^2cs^2\omega_2^3 + 3\omega_6^2\omega_3^2v_2^2\omega_2^2 - 24\omega_6\omega_3^2cs^2\omega_2^2 + 3\omega_6\omega_3^3\omega_2^2 - 24\omega_6\omega_3^2v_2^2\omega_2^2 + 4\omega_6^2\omega_3^3cs^2\omega_2^3 + 36\omega_6^2\omega_3cs^2\omega_2^3 - 30\omega_6^2\omega_3v_2^2\omega_2^3 + 12\omega_6\omega_3^2\omega_2^2 - 12\omega_3^2cs^2\omega_2^3 - 12\omega_3^2v_2^2\omega_2^3 - 6\omega_6\omega_3^2\omega_2^3 + 6\omega_6^2\omega_3^3cs^2\omega_2 - 18\omega_6^2\omega_3^2v_2^2\omega_2 - 24\omega_6^2\omega_3cs^2\omega_2^2 - 6\omega_6^2\omega_3^2\omega_2^2 + 12\omega_6\omega_3^3v_2^2\omega_2^2 - 32\omega_6^2\omega_3^2cs^2\omega_2^2 + 12\omega_6\omega_3^3cs^2\omega_2^2 + 48\omega_6^2\omega_3^2cs^2\omega_2^2 - 12\omega_6\omega_3^3v_2^2\omega_2^2 - 12\omega_6\omega_3^3cs^2\omega_2^2 + 12\omega_6^2\omega_3^2v_2^2\omega_2^2 + 3\omega_6^2\omega_3^2\omega_2^2 - 12\omega_6^2\omega_3^2cs^2\omega_2 - 12\omega_6\omega_3cs^2\omega_2^2 + 2\omega_6^2\omega_3^2\omega_2^2 - 12\omega_6\omega_3v_2^2\omega_2^2 + 6\omega_3^3v_2^2\omega_2^2 + 6\omega_3^2cs^2\omega_2^2 - \omega_6^2\omega_3^3\omega_2^2 + 12\omega_6^2\omega_3^2v_2^2$$

$$C_{30} = -72\omega_6^2\omega_3^2v_2^2cs^2 - 24\omega_3^2v_2^4 - 24\omega_6\omega_3cs^2 - 48\omega_6^2\omega_3cs^4 - 8\omega_6^2\omega_3^2cs^2 - 12\omega_6\omega_3^3v_2^2cs^2 + 3\omega_6^2\omega_3^3v_2^4 + 18\omega_6\omega_3^3v_2^2 + 24\omega_6^2cs^4 - 24\omega_6\omega_3^2cs^4 - 24\omega_6^2\omega_3v_2^2 + 12\omega_3^3v_2^2cs^2 - 24\omega_6\omega_3v_2^2cs^2 + 12\omega_3^3v_2^4 - 48\omega_6\omega_3v_2^4 + 6\omega_6\omega_3^3cs^4 - 72\omega_6\omega_3^2v_2^2 - 24\omega_6^2\omega_3^2v_2^4 + \omega_6^2\omega_3^3cs^2 - 12\omega_3^3v_2^2 - 96\omega_6^2v_2^2cs^2 + 48\omega_6\omega_3v_2^2 + 24\omega_6^2\omega_3v_2^4 + 48\omega_6\omega_3^2v_2^2cs^2 + 24\omega_6^2\omega_3^2v_2^2 - 3\omega_6^2\omega_3^3cs^4 - 6\omega_6\omega_3^3cs^2 + 6\omega_6^2\omega_3^3v_2^2cs^2 + 72\omega_6\omega_3^2v_2^4 + 12\omega_6^2\omega_3cs^2 + 156\omega_6^2\omega_3v_2^2cs^2 + 24\omega_3^2v_2^2 + 24\omega_6\omega_3cs^4 - 18\omega_6\omega_3^3v_2^4 + 24\omega_6\omega_3^2cs^2 + 24\omega_6^2\omega_3^2cs^4 - 24\omega_3^2v_2^2cs^2 - 3\omega_6^2\omega_3^3v_2^2$$

$$C_{31} = 6\omega_3^3cs^2 - 12\omega_6\omega_3cs^2 + 12\omega_3^2 + 12\omega_6\omega_3 - 20\omega_6^2\omega_3^2cs^2 - 6\omega_6\omega_3^3v_2^2 - 6\omega_3^3 + 24\omega_6^2\omega_3v_2^2 - 24\omega_6\omega_3^2 - 12\omega_3^2cs^2 - 12\omega_6^2v_2^2 + 24\omega_6\omega_3^2v_2^2 + \omega_6^2\omega_3^3cs^2 + 6\omega_6\omega_3^3 + 6\omega_3^3v_2^2 - 12\omega_6\omega_3v_2^2 - \omega_6^2\omega_3^3 - 16\omega_6^2\omega_3^2v_2^2 - 6\omega_6\omega_3^3cs^2 + 8\omega_6^2\omega_3^2 + 42\omega_6^2\omega_3cs^2 - 6\omega_6^2\omega_3 - 12\omega_3^2v_2^2 - 24\omega_6^2cs^2 + 24\omega_6\omega_3^2cs^2 + 2\omega_6^2\omega_3^3v_2^2$$

$C_{32} = 12\omega_4\omega_5\omega_2^3 - 6\omega_4\omega_5\omega_2^2 + 24\omega_4^3\omega_5\omega_2 - 10\omega_4^3\omega_5\omega_2^2 - 12\omega_4^3\omega_5 - 6\omega_5\omega_2^3 + \omega_4^3\omega_5\omega_2^3 - 6\omega_4^2\omega_2^3 - 12\omega_4^2\omega_5\omega_2 + 12\omega_4^2\omega_2^2 - 7\omega_4^2\omega_5\omega_2^3 + 3\omega_4^3\omega_2^3 - 6\omega_4^3\omega_2^2 + 12\omega_4^2\omega_5\omega_2^2$

$C_{33} = 12\omega_4 cs^2\omega_2^2 - 6cs^2\omega_5\omega_2^3 - 6\omega_4 cs^2\omega_2^3 - 30\omega_4 cs^2\omega_5^2\omega_2 - 12v_1^2\omega_5^2\omega_2 + 12cs^2\omega_5\omega_2^2 + 36v_1^2\omega_4\omega_5^2\omega_2 - 10v_1^2\omega_4\omega_5^2\omega_2^2 + 22\omega_4 cs^2\omega_5^2\omega_2^2 - 24v_1^2\omega_4\omega_5^2 + 6v_1^2\omega_5^2\omega_2^2 + v_1^2\omega_4\omega_5^2\omega_2^3 - v_1^2\omega_5^2\omega_2^3 - 2\omega_4 cs^2\omega_5^2\omega_2^3 + 12v_1^2\omega_4\omega_2^2 + 9v_1^2\omega_4\omega_5\omega_2^3 - 6v_1^2\omega_5\omega_2^3 + 9\omega_4 cs^2\omega_5\omega_2^3 + 12cs^2\omega_5^2\omega_2 - 30v_1^2\omega_4\omega_5\omega_2^2 - 6v_1^2\omega_4\omega_2^3 - 30\omega_4 cs^2\omega_5\omega_2^2 + 12v_1^2\omega_5\omega_2^2 + 12\omega_4 cs^2\omega_5\omega_2 - 18cs^2\omega_5^2\omega_2^2 + 12\omega_4 cs^2\omega_5^2 + 12v_1^2\omega_4\omega_5\omega_2 + 3cs^2\omega_5^2\omega_2^3$

$C_{34} = 6\omega_4^2 cs^2\omega_5\omega_2^3 + 6v_1^2\omega_4^3\omega_2^3 - 3\omega_4^2\omega_5^2\omega_2^2 - 12\omega_4^2 cs^2\omega_5\omega_2^2 + \omega_4^2\omega_5^2\omega_2^3 + 6v_1^2\omega_4^3\omega_5^2\omega_2^2 - 24\omega_4^3 cs^2\omega_5\omega_2 + 12\omega_4^3\omega_5\omega_2 - 12v_1^2\omega_4^3\omega_2^2 + 42\omega_4^3 cs^2\omega_5\omega_2^2 - 30v_1^2\omega_4^3\omega_5^2\omega_2 - 21\omega_4^3\omega_5\omega_2^2 + 6v_1^2\omega_4^2\omega_5\omega_2^3 + 6v_1^2\omega_4\omega_5^2\omega_2^2 - 12\omega_4 cs^2\omega_5^2\omega_2^2 + 6\omega_4^3 cs^2\omega_2^3 - 12v_1^2\omega_4\omega_5^2\omega_2^3 - 12v_1^2\omega_4^2\omega_5\omega_2^2 + 6\omega_4^3\omega_5\omega_2^3 - 12\omega_4^3 cs^2\omega_5\omega_2^3 + 6v_1^2\omega_5^2\omega_2^3 - 12\omega_4^3 cs^2\omega_2^2 + 6\omega_4 cs^2\omega_5^2\omega_2^3 - 12v_1^2\omega_4^2\omega_5^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^3 + 6\omega_4^3 cs^2\omega_5^2\omega_2^2 - 24v_1^2\omega_4^3\omega_5\omega_2 - 48\omega_4^3 cs^2\omega_5^2\omega_2^2 - 36\omega_4^3 cs^2\omega_5^2 + 7\omega_4^3\omega_5^2\omega_2^2 + 6v_1^2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2 cs^2\omega_5^2\omega_2 + 42\omega_4^2 cs^2\omega_5^2\omega_2^2 + 78\omega_4^3 cs^2\omega_5^2\omega_2 - 3\omega_4^2\omega_5\omega_2^3 + 42v_1^2\omega_4^3\omega_5\omega_2^2 - 3\omega_4^3\omega_2^3 - 6\omega_4^3\omega_5^2\omega_2 - 12\omega_4^2 cs^2\omega_5^2\omega_2^3 + 24v_1^2\omega_4^3\omega_5^2 + 12v_1^2\omega_4^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^2 - 12v_1^2\omega_4^3\omega_5\omega_2^3 + 6\omega_4^2\omega_5\omega_2^2$

$C_{35} = 12\omega_4^2 cs^2\omega_5\omega_2^3 + 6v_1^2\omega_4^3\omega_2^3 + 3v_1^2\omega_4^3\omega_5^2\omega_2^3 - 6\omega_4^2\omega_5^2\omega_2^2 - 24\omega_4^2 cs^2\omega_5\omega_2^2 + 2\omega_4^2\omega_5^2\omega_2^3 - 12\omega_4^3 cs^2\omega_5\omega_2 - 12v_1^2\omega_4^3\omega_2^2 + 36\omega_4^3 cs^2\omega_5\omega_2^2 - 30v_1^2\omega_4^3\omega_5^2\omega_2 - 6\omega_4^3\omega_5\omega_2^2 + 12v_1^2\omega_4^2\omega_5\omega_2^3 - 12\omega_4 cs^2\omega_5^2\omega_2^2 + 6\omega_4^3 cs^2\omega_2^3 - 18v_1^2\omega_4\omega_5^2\omega_2^3 - 24v_1^2\omega_4^2\omega_5\omega_2^2 + 3\omega_4^3\omega_5\omega_2^3 - 12\omega_4^3 cs^2\omega_5\omega_2^2 + 12v_1^2\omega_5^2\omega_2^3 - 12\omega_4^3 cs^2\omega_2^2 + 6\omega_4 cs^2\omega_5^2\omega_2^3 + 12v_1^2\omega_4^2\omega_5^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^3 + 4\omega_4^3 cs^2\omega_5^2\omega_2^2 - 12v_1^2\omega_4^3\omega_5\omega_2 - 32\omega_4^3 cs^2\omega_5^2\omega_2^2 - 12\omega_4^3 cs^2\omega_5^2 + 3\omega_4^3\omega_5^2\omega_2^2 - 24\omega_4^2 cs^2\omega_5^2\omega_2 + 48\omega_4^2 cs^2\omega_5^2\omega_2^2 + 36\omega_4^3 cs^2\omega_5^2\omega_2 - 6\omega_4^2\omega_5\omega_2^3 + 36v_1^2\omega_4^3\omega_5\omega_2^2 - 12\omega_4^2 cs^2\omega_5^2\omega_2^3 + 24v_1^2\omega_4^3\omega_5^2 - 12v_1^2\omega_4^3\omega_5\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2$

$C_{36} = 24\omega_5\omega_2 - 12v_1^2\omega_2^2 - 12cs^2\omega_5\omega_2^3 + 6v_1^2\omega_2^3 + 48cs^2\omega_5\omega_2^2 - 36cs^2\omega_5\omega_2 - 12cs^2\omega_2^2 - 8v_1^2\omega_5^2\omega_2^2 + 9\omega_5\omega_2^3 + 6cs^2\omega_2^3 - 36\omega_5\omega_2^2 + v_1^2\omega_5^2\omega_2^3 - 12v_1^2\omega_5\omega_2^3 - 48cs^2\omega_5^2 + 11\omega_5^2\omega_2^2 + 90cs^2\omega_5^2\omega_2 - \omega_5^2\omega_2^3 + 48v_1^2\omega_5\omega_2^2 - 36v_1^2\omega_5\omega_2 + 12v_1^2\omega_5^2 - 44cs^2\omega_5^2\omega_2^2 - 6\omega_2^3 - 12\omega_5^2\omega_2 + 12\omega_2^2 + 4cs^2\omega_5^2\omega_2^3$

$C_{37} = -12\omega_3\omega_4^2\omega_2 + 3\omega_3^3\omega_4^3\omega_2 - 12\omega_3^2\omega_4\omega_2 + 18\omega_3\omega_4^3\omega_2 - 6\omega_3\omega_4^3 - 16\omega_3^3\omega_4^2\omega_2 - 6\omega_3^3\omega_4 - 6\omega_4^3\omega_2 - 16\omega_3^2\omega_4^3\omega_2 + 12\omega_3^2\omega_4^3 + 18\omega_3^3\omega_4\omega_2 - 12\omega_3^2\omega_4^2 - 6\omega_3^3\omega_2 - 4\omega_3^3\omega_4^3 + 30\omega_3^2\omega_4^2\omega_2 + 12\omega_3^3\omega_4^2$

$C_{38} = -12\omega_3\omega_4^2\omega_2 + 3\omega_3\omega_4^3\omega_2^3 - 6\omega_3\omega_2^3 - 16\omega_3\omega_4^3\omega_2^2 + 18\omega_3\omega_4^3\omega_2 - 16\omega_3\omega_4^2\omega_2^3 - 6\omega_3\omega_4^3 - 6\omega_4^3\omega_2^2 + 30\omega_3\omega_4^2\omega_2^2 - 6\omega_4^3\omega_2 + 12\omega_4^2\omega_2^3 - 12\omega_3\omega_4\omega_2^2 + 18\omega_3\omega_4\omega_2^3 - 12\omega_4^2\omega_2^2 - 4\omega_4^3\omega_2^3 + 12\omega_4^3\omega_2^2$

$C_{39} = -6\omega_3\omega_2^3 - 12\omega_3^2\omega_4\omega_2 + 30\omega_3^2\omega_4\omega_2^2 - 6\omega_4\omega_2^3 - 16\omega_3^2\omega_4\omega_2^3 - 6\omega_3^3\omega_4 - 12\omega_3\omega_4\omega_2^2 + 18\omega_3^3\omega_4\omega_2 - 4\omega_3^3\omega_2^2 + 18\omega_3\omega_4\omega_2^3 + 12\omega_3^3\omega_2^2 + 12\omega_3^2\omega_2^3 - 6\omega_3^3\omega_2 + 3\omega_3^3\omega_4\omega_2^3 - 12\omega_3^2\omega_2^2 - 16\omega_3^3\omega_4\omega_2^2$

$C_{40} = 7\omega_3^2 v_1^2\omega_4^3\omega_5^2\omega_2^3 + 6\omega_3^3\omega_4^2 cs^2\omega_5^2\omega_2^2 + 6\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2 + 6\omega_3^3 v_1^2\omega_4^3\omega_5\omega_2^2 - 2\omega_3^3\omega_4^3 cs^2\omega_2^2 + 3\omega_3^3 v_1^2\omega_5^2\omega_2^3 + 3v_1^2\omega_4^3\omega_5^2\omega_2^3 + 4\omega_3 v_1^2\omega_4^3\omega_5^2\omega_2^2 - 2\omega_3^3\omega_4^2 cs^2\omega_5^2\omega_2^3 - 12\omega_3^2 v_1^2\omega_4^3\omega_5^2\omega_2^2 + 7\omega_3^3 v_1^2\omega_4^2\omega_5^2\omega_2 - 8\omega_3 v_1^2\omega_4^3\omega_5^2\omega_2^3 + \omega_3^3\omega_4^3 cs^2\omega_2^3 - 2\omega_3^3 v_1^2\omega_4^3\omega_5\omega_2^3 - 12\omega_3^3 v_1^2\omega_4^2\omega_5^2\omega_2^2 + \omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2^3 + 7\omega_3^3 v_1^2\omega_4^3\omega_5^2\omega_2 - 2\omega_3^3 v_1^2\omega_4^3\omega_2^2 - 2\omega_3^2\omega_4^3 cs^2\omega_5\omega_2^2 - 2\omega_3^3 v_1^2\omega_4^3\omega_5\omega_2 - 6\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2^2 + 7\omega_3^3 v_1^2\omega_4^2\omega_5^2\omega_2^2 + \omega_3^3 v_1^2\omega_4^3\omega_2^2 + \omega_3^2\omega_4^3 cs^2\omega_5\omega_2^2 + 3\omega_3^2 v_1^2\omega_4\omega_5^2\omega_2^3 - 2\omega_3^3\omega_4^2 cs^2\omega_5^2\omega_2 + 6\omega_3^3\omega_4^3 cs^2\omega_5\omega_2^2 - 21\omega_3^3 v_1^2\omega_4^3\omega_5^2\omega_2 + 3\omega_3 v_1^2\omega_4^2\omega_5^2\omega_2^3 + 10\omega_3^3 v_1^2\omega_4^3\omega_5^2 + \omega_3^3 v_1^2\omega_4^2\omega_5\omega_2^2 - 2\omega_3\omega_4^3 cs^2\omega_5^2\omega_2^2 + 4\omega_3^3 v_1^2\omega_4\omega_5^2\omega_2^2 - 2\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2^3 - 2\omega_3^3\omega_4^3 cs^2\omega_2^3 + 4\omega_3^2 v_1^2\omega_4^2\omega_5^2\omega_2^2 - 8\omega_3^3 v_1^2\omega_4\omega_5^2\omega_2^3 - 2\omega_3^3 v_1^2\omega_4^2\omega_5^2\omega_2 + \omega_3\omega_4^3 cs^2\omega_5^2\omega_2^3 - 2\omega_3^3\omega_4^3 cs^2\omega_5\omega_2^3 - 8\omega_3^2 v_1^2\omega_4^3\omega_5^2\omega_2^2 + 6\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2^2 + \omega_3^3\omega_4 cs^2\omega_5^2\omega_2^3 + 4\omega_3^3 v_1^2\omega_4^2\omega_5^2\omega_2^2 + \omega_3^3\omega_4^2 cs^2\omega_5^2\omega_2^3 + \omega_3^3 v_1^2\omega_4^3\omega_5^2\omega_2^3 - 2\omega_3^3\omega_4^3 cs^2\omega_5^2 - 2\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2^2 - 2\omega_3^3 v_1^2\omega_4^3\omega_5^2\omega_2^3 + \omega_3^2 v_1^2\omega_4^3\omega_5\omega_2^3 - 2\omega_3^3\omega_4^3 cs^2\omega_5^2\omega_2 + 12\omega_3^3 v_1^2\omega_4^3\omega_5^2\omega_2^2 - 2\omega_3^3\omega_4^3 cs^2\omega_5\omega_2 + \omega_3^2\omega_4^3 cs^2\omega_5^2\omega_2^3$

$C_{41} = -30\omega_3\omega_4^3\omega_2^3 - 30\omega_3^3\omega_4^2\omega_2^2 - 36\omega_3^3\omega_4^3\omega_2 + 24\omega_3^3\omega_4^2\omega_2^3 + 6\omega_3\omega_4^3\omega_2^2 + 28\omega_3^3\omega_4^3\omega_2^2 + 18\omega_3\omega_4^2\omega_2^3 + 18\omega_3^2\omega_4\omega_2^3 + 18\omega_3^3\omega_4^2\omega_2 - 5\omega_3^3\omega_4^3\omega_2^3 - 42\omega_3^2\omega_4^2\omega_2^3 + 18\omega_3^2\omega_4^3\omega_2 + 12\omega_3^3\omega_2^3 + 12\omega_3^2\omega_4^2\omega_2^2 - 30\omega_3^3\omega_4\omega_2^3 + 24\omega_3^2\omega_4^3\omega_2^2 + 12\omega_3^3\omega_4^3 + 12\omega_4^3\omega_2^3 - 30\omega_3^2\omega_4^3\omega_2^2 + 6\omega_3^3\omega_4\omega_2^2$

$C_{42} = 12\omega_4^2 cs^2\omega_5\omega_2^3 + 6v_1^2\omega_4^3\omega_2^3 - 5v_1^2\omega_4^3\omega_5^2\omega_2^3 - 24\omega_4^2 cs^2\omega_5\omega_2^2 + 40v_1^2\omega_4^3\omega_5^2\omega_2^2 - 12\omega_4^3 cs^2\omega_5\omega_2 - 12v_1^2\omega_4^3\omega_2^2 + 36\omega_4^3 cs^2\omega_5\omega_2^2 - 90v_1^2\omega_4^3\omega_5^2\omega_2 + 12v_1^2\omega_4^2\omega_5\omega_2^3 + 24v_1^2\omega_4\omega_5^2\omega_2^2 - 12\omega_4 cs^2\omega_5^2\omega_2^2 + 6\omega_4^3 cs^2\omega_2^3 - 30v_1^2\omega_4\omega_5^2\omega_2^3 - 24v_1^2\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3 cs^2\omega_5\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 - 12\omega_4^3 cs^2\omega_2^2 + 6\omega_4 cs^2\omega_5^2\omega_2^3 - 60v_1^2\omega_4^2\omega_5^2\omega_2^2 + 4\omega_4^3 cs^2\omega_5^2\omega_2^3 - 12v_1^2\omega_4^3\omega_5\omega_2 - 32\omega_4^3 cs^2\omega_5^2\omega_2^2 - 12\omega_4^3 cs^2\omega_5^2 + 24v_1^2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2 cs^2\omega_5^2\omega_2 + 48\omega_4^2 cs^2\omega_5^2\omega_2^2 + 36\omega_4^3 cs^2\omega_5^2\omega_2 + 36v_1^2\omega_4^3\omega_5\omega_2^2 - 12\omega_4^2 cs^2\omega_5^2\omega_2^3 + 48v_1^2\omega_4^3\omega_5^2 + 48v_1^2\omega_4^2\omega_5^2\omega_2 - 12v_1^2\omega_4^3\omega_5\omega_2^3$

$C_{43} = 12\omega_3^2 cs^2\omega_5\omega_2^3 - 5\omega_3^3 v_1^2\omega_5^2\omega_2^3 - 12\omega_3^3 cs^2\omega_5^2 + 48\omega_3^2 v_1^2\omega_5^2\omega_2 - 12\omega_3^3 cs^2\omega_5\omega_2 - 24\omega_3^2 cs^2\omega_5\omega_2^2 + 40\omega_3^3 v_1^2\omega_5^2\omega_2^2 - 12\omega_3 cs^2\omega_5^2\omega_2^2 - 90\omega_3^3 v_1^2\omega_5^2\omega_2 + 36\omega_3^3 cs^2\omega_5\omega_2^2 - 60\omega_3^2 v_1^2\omega_5^2\omega_2^2 + 48\omega_3^3 v_1^2\omega_5^2 + 6\omega_3 cs^2\omega_2^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 - 12\omega_3^3 cs^2\omega_5\omega_2^3 + 24\omega_3^2 v_1^2\omega_5^2\omega_2^3 + 6\omega_3^3 v_1^2\omega_2^3 + 12\omega_3^2 v_1^2\omega_5\omega_2^3 + 4\omega_3^3 cs^2\omega_5^2\omega_2^3 - 24\omega_3^2 cs^2\omega_5^2\omega_2 - 12\omega_3^3 v_1^2\omega_5\omega_2 - 24\omega_3^2 v_1^2\omega_5\omega_2^2 - 32\omega_3^3 cs^2\omega_5^2\omega_2^2 - 12\omega_3^3 v_1^2\omega_2^2 + 36\omega_3^3 cs^2\omega_5^2\omega_2 + 24\omega_3 v_1^2\omega_5^2\omega_2^2 + 6\omega_3^3 cs^2\omega_2^3 + 36\omega_3^3 v_1^2\omega_5\omega_2^2 + 48\omega_3^2 cs^2\omega_5^2\omega_2^2 - 30\omega_3 v_1^2\omega_5^2\omega_2^3 - 12\omega_3^3 v_1^2\omega_5\omega_2^3 - 12\omega_3^2 cs^2\omega_5^2\omega_2^3 - 12\omega_3^3 cs^2\omega_2^2$

$C_{44} = 12\omega_6\omega_3^2\omega_4^2 + 12\omega_6\omega_3^3\omega_4 - 10\omega_6\omega_3^2\omega_4^3 - 7\omega_6\omega_3^3\omega_4^2 - 6\omega_6\omega_3^2\omega_4 + \omega_6\omega_3^3\omega_4^3 - 6\omega_6\omega_3^3 - 6\omega_3^2\omega_4^3 + 12\omega_3^2\omega_4^2 + 24\omega_6\omega_3\omega_4^3 - 12\omega_6\omega_3^3\omega_4^2 + 3\omega_3^3\omega_4^3 - 6\omega_3^3\omega_4^2 - 12\omega_6\omega_3\omega_4^2$

$C_{45} = 22\omega_6^2\omega_3^2\omega_4 cs^2 - 24\omega_6^2 v_2^2\omega_4 - 30\omega_6\omega_3^2 v_2^2\omega_4 - 18\omega_6^2\omega_3^2 cs^2 + 9\omega_6\omega_3^3\omega_4 cs^2 + \omega_6^2\omega_3^3 v_2^2\omega_4 - 6\omega_6\omega_3^3 v_2^2 - 12\omega_6^2\omega_3 v_2^2 + 36\omega_6^2\omega_3 v_2^2\omega_4 - 6\omega_3^3\omega_4 cs^2 + 12\omega_6\omega_3\omega_4 cs^2 + 12\omega_6\omega_3^2 v_2^2 + 12\omega_3^2 v_2^2\omega_4 + 3\omega_6^2\omega_3^3 cs^2 - 10\omega_6^2\omega_3^2 v_2^2\omega_4 + 12\omega_6^2\omega_4 cs^2 - 30\omega_6\omega_3^2\omega_4 cs^2 + 6\omega_6^2\omega_3^2 v_2^2 + 9\omega_6\omega_3^3 v_2^2\omega_4 - 6\omega_6\omega_3^3 cs^2 - 2\omega_6^2\omega_3^3\omega_4 cs^2 + 12\omega_6^2\omega_3 cs^2 - 30\omega_6^2\omega_3\omega_4 cs^2 - 6\omega_3^3 v_2^2\omega_4 + 12\omega_6\omega_3 v_2^2\omega_4 + 12\omega_6\omega_3^2 cs^2 + 12\omega_3^2\omega_4 cs^2 - \omega_6^2\omega_3^3 v_2^2$

$C_{46} = 3\omega_6^2\omega_3^3 v_2^2\omega_4^2\omega_2 - 2\omega_6\omega_3^3 v_2^2\omega_4^2\omega_2^3 - 2\omega_6\omega_3\omega_4^3 cs^2\omega_2^3 - 2\omega_6^2\omega_3^3 v_2^2\omega_4^3\omega_2^2 + \omega_6\omega_3^3 v_2^2\omega_4^3\omega_2^2 + 6\omega_6^2\omega_3^2\omega_4^2 cs^2\omega_2^3 - 2\omega_6^2\omega_3\omega_4^3 cs^2\omega_2^2 + 4\omega_6^2\omega_3^2 v_2^2\omega_4^2\omega_2^2 + 7\omega_6^2\omega_3^3 v_2^2\omega_4^3\omega_2^2 - 2\omega_6\omega_3^2\omega_4^2 cs^2\omega_2^3 + 3\omega_6^2\omega_3^3 v_2^2\omega_2^3 - 12\omega_6^2\omega_3^2 v_2^2\omega_4^2\omega_2^3 + \omega_3^3\omega_4^3 cs^2\omega_2^3 - 2\omega_6^2\omega_3^3\omega_4^2 cs^2\omega_2^2 + 4\omega_6^2\omega_3^2 v_2^2\omega_4^2\omega_2 - 2\omega_6\omega_3^3 v_2^2\omega_4^3\omega_2^2 + 6\omega_6^2\omega_3\omega_4^3 cs^2\omega_2^3 - 12\omega_6^2\omega_3^2 v_2^2\omega_4^3\omega_2^2 + 6\omega_6\omega_3^2 v_2^2\omega_4^3\omega_2^2 - 8\omega_6^2\omega_3^3 v_2^2\omega_4^2\omega_2 + \omega_6^2\omega_3^3\omega_4^2 cs^2\omega_2^2 + 7\omega_6^2\omega_3^3 v_2^2\omega_4^2\omega_2^3 - 2\omega_3^3\omega_4^3 cs^2\omega_2^3 + 12\omega_6^2\omega_3^2 v_2^2\omega_4^3\omega_2^3 + \omega_6\omega_3^3 v_2^2\omega_4^2\omega_2^3 + 10\omega_6^2 v_2^2\omega_4^3\omega_2^3 + 3\omega_6^2\omega_3^3 v_2^2\omega_4^2\omega_2^2 - 8\omega_6^2\omega_3^3 v_2^2\omega_4^2\omega_2 - 2\omega_6^2\omega_3^3\omega_4^2 cs^2\omega_2^2 - 2\omega_6\omega_3^2 v_2^2\omega_4^3\omega_2^2 - 2\omega_6^2\omega_3\omega_4^2 cs^2\omega_2^3 + 6\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2^2 - 2\omega_3^2 v_2^2\omega_4^3\omega_2^3 + \omega_6^2\omega_3^3\omega_4^2 cs^2\omega_2 + 6\omega_6\omega_3^3 v_2^2\omega_4^3\omega_2^2 + 3\omega_6^2\omega_3^3 v_2^2\omega_4\omega_2^2 + 7\omega_6^2\omega_3 v_2^2\omega_4^2\omega_2^3 - 2\omega_6^2\omega_3^3\omega_4^2 cs^2\omega_2^3 - 6\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2^2 + \omega_6^2\omega_3^3\omega_4 cs^2\omega_2^3 - 8\omega_6^2\omega_3^3 v_2^2\omega_4\omega_2^3 - 2\omega_6\omega_3^3 v_2^2\omega_4^3\omega_2^2 - 2\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2^2 + 4\omega_6^2\omega_3^3 v_2^2\omega_4\omega_2^3 - 2\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2^3 + 4\omega_6^2\omega_3^3 v_2^2\omega_4^3\omega_2^3 - 2\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2^2 - 2\omega_6\omega_3^3\omega_4^3 cs^2\omega_2^3 - 2\omega_6^2\omega_3^3\omega_4^3 cs^2\omega_2 - 21\omega_6^2\omega_3 v_2^2\omega_4^3\omega_2^3 + \omega_3^3 v_2^2\omega_4^3\omega_2^3$

$$C_{47} = -12\omega_6^2\omega_3^2\omega_4 cs^2 + 4\omega_6^2\omega_3^3\omega_4^3 cs^2 - 90\omega_6^2\omega_3\nu_2^2\omega_4^3 + 36\omega_6\omega_3^2\omega_4^3 cs^2 - 12\omega_3^2\nu_2^2\omega_4^3 - 24\omega_6^2\omega_3\omega_4^2 cs^2 - 30\omega_6^2\omega_3^3\nu_2^2\omega_4 - 12\omega_6^2\omega_4^3 cs^2 + 48\omega_6^2\nu_2^2\omega_4^3 - 5\omega_6^2\omega_3^3\nu_2^2\omega_4^3 - 24\omega_6\omega_3^2\nu_2^2\omega_4^2 + 36\omega_6^2\omega_3\omega_4^3 cs^2 - 24\omega_6\omega_3^2\omega_4^2 cs^2 + 24\omega_6^2\omega_3^2\nu_2^2\omega_4 - 12\omega_6\omega_3\nu_2^2\omega_4^3 + 6\omega_3^3\nu_2^2\omega_4^3 - 12\omega_6\omega_3^3\omega_4^3 cs^2 + 6\omega_6^2\omega_3^3\omega_4 cs^2 - 32\omega_6^2\omega_3^2\omega_4^3 cs^2 + 12\omega_6\omega_3^3\omega_4^2 cs^2 + 12\omega_6\omega_3^3\nu_2^2\omega_4^2 + 40\omega_6^2\omega_3^2\nu_2^2\omega_4^3 + 48\omega_6^2\omega_3^2\omega_4^2 cs^2 - 12\omega_6\omega_3\omega_4^3 cs^2 - 12\omega_6\omega_3^3\nu_2^2\omega_4^3 + 6\omega_3^3\omega_4^3 cs^2 - 60\omega_6^2\omega_3^2\nu_2^2\omega_4^2 + 12\omega_6^2\omega_3^3\nu_2^2$$

$$C_{48} = -36\omega_3\omega_4^3\omega_2^3 - 42\omega_3^3\omega_4^2\omega_2^2 - 30\omega_3^3\omega_4^3\omega_2 + 24\omega_3^3\omega_4^2\omega_2^3 + 18\omega_3\omega_4^3\omega_2^2 + 24\omega_3^3\omega_4^3\omega_2^2 + 18\omega_3\omega_4^2\omega_2^3 + 6\omega_3^2\omega_4\omega_2^3 + 18\omega_3^3\omega_4^2\omega_2 - 5\omega_3^3\omega_4^3\omega_2^3 - 30\omega_3^2\omega_4^2\omega_2^3 + 6\omega_3^2\omega_4^3\omega_2 + 12\omega_3^3\omega_2^3 + 12\omega_3^2\omega_4^2\omega_2^2 - 30\omega_3^3\omega_4\omega_2^3 + 28\omega_3^2\omega_4^3\omega_2^3 + 12\omega_3^3\omega_4^3 + 12\omega_4^3\omega_2^3 - 30\omega_3^2\omega_4^3\omega_2^2 + 18\omega_3^3\omega_4\omega_2^2$$

$$C_{49} = 36\omega_6\omega_3^2 cs^2\omega_2^3 + 24\omega_6^2\omega_3^3\nu_2^2\omega_2^2 - 12\omega_6^2\omega_3^3 cs^2\omega_2^2 + 36\omega_6\omega_3^2\nu_2^2\omega_2^3 + 48\omega_6^2\nu_2^2\omega_2^3 - 12\omega_6^2 cs^2\omega_2^3 - 5\omega_6^2\omega_3^3\nu_2^2\omega_2^3 - 24\omega_6\omega_3^2 cs^2\omega_2^2 - 24\omega_6\omega_3^2\nu_2^2\omega_2^2 + 4\omega_6^2\omega_3^3 cs^2\omega_2^3 + 36\omega_6^2\omega_3 cs^2\omega_2^3 - 90\omega_6^2\omega_3\nu_2^2\omega_2^3 - 12\omega_3^2 cs^2\omega_2^3 - 12\omega_3^2\nu_2^2\omega_2^3 + 6\omega_6^2\omega_3^3 cs^2\omega_2 - 30\omega_6^2\omega_3^3\nu_2^2\omega_2 - 24\omega_6^2\omega_3 cs^2\omega_2^2 + 48\omega_6^2\omega_3\nu_2^2\omega_2^2 + 12\omega_6\omega_3^3\nu_2^2\omega_2^2 - 32\omega_6^2\omega_3^2 cs^2\omega_2^3 + 40\omega_6^2\omega_3^2\nu_2^2\omega_2^3 + 12\omega_6\omega_3^3 cs^2\omega_2^2 + 48\omega_6^2\omega_3^2 cs^2\omega_2^2 - 12\omega_6\omega_3^3\nu_2^2\omega_2^3 - 12\omega_6\omega_3^3 cs^2\omega_2^3 - 60\omega_6^2\omega_3^2\nu_2^2\omega_2^2 + 24\omega_6^2\omega_3^2\nu_2^2\omega_2 - 12\omega_6^2\omega_3^2 cs^2\omega_2 - 12\omega_6\omega_3 cs^2\omega_2^3 - 12\omega_6\omega_3\nu_2^2\omega_2^3 + 6\omega_3^3\nu_2^2\omega_2^3 + 6\omega_3^3 cs^2\omega_2^3 + 12\omega_6^2\omega_3^3\nu_2^2$$

$$C_{50} = -12\omega_6^2\omega_3^2\omega_4 cs^2 + 6\omega_6^2\omega_3^3\omega_4^3 cs^2 - 30\omega_6^2\omega_3\nu_2^2\omega_4^3 + 6\omega_6\omega_3^2\omega_4^2 - 6\omega_6^2\omega_3\omega_4^3 + 42\omega_6\omega_3^2\omega_4^3 cs^2 - 12\omega_3^2\nu_2^2\omega_4^3 - 24\omega_6^2\omega_3\omega_4^2 cs^2 - 12\omega_6^2\omega_3^3\nu_2^2\omega_4 - 21\omega_6\omega_3^2\omega_4^3 - 36\omega_6^2\omega_3^3 cs^2 + 12\omega_6^2\omega_3^3\nu_2^2\omega_4^2 - 3\omega_6\omega_3^3\omega_4^2 - 12\omega_3^2\omega_4^3 cs^2 + 6\omega_6^2\omega_3^3\nu_2^2\omega_4^2 + 42\omega_6\omega_3^3\nu_2^2\omega_4^3 - 12\omega_6^2\omega_3^3\omega_4^2 cs^2 + 24\omega_6^2\nu_2^2\omega_4^3 + 6\omega_6\omega_3^3\omega_4^3 - 12\omega_6\omega_3^2\nu_2^2\omega_4^2 + 78\omega_6^2\omega_3\omega_4^3 cs^2 - 12\omega_6\omega_3^3\omega_4^2 cs^2 + 6\omega_6^2\omega_3^3\nu_2^2\omega_4 + 6\omega_3^3\omega_4^3 + \omega_6^2\omega_3^3\omega_4^2 - 24\omega_6\omega_3\nu_2^2\omega_4^3 + 6\omega_3^3\nu_2^2\omega_4^3 - 12\omega_6\omega_3^3\omega_4^3 cs^2 - \omega_6^2\omega_3^3\omega_4^3 + 6\omega_6^2\omega_3^3\omega_4 cs^2 - 48\omega_6^2\omega_3^3\omega_4^3 cs^2 + 6\omega_6\omega_3^3\omega_4^2 cs^2 + 12\omega_6\omega_3\omega_4^3 - 3\omega_6^2\omega_3^3\omega_4^2 + 6\omega_6\omega_3^3\nu_2^2\omega_4^2 + 6\omega_6^2\omega_3^3\nu_2^2\omega_4^3 - 3\omega_3^3\omega_4^3 + 42\omega_6^2\omega_3^3\omega_4^2 cs^2 - 24\omega_6\omega_3\omega_4^3 cs^2 - 12\omega_6\omega_3^3\nu_2^2\omega_4^3 + 6\omega_3^3\omega_4^3 cs^2 - 12\omega_6^2\omega_3^3\nu_2^2\omega_4^2 + 7\omega_6^2\omega_3^3\omega_4^3 + 6\omega_6^2\omega_3^3\nu_2^2$$

$$C_{51} = -12\omega_6^2\omega_3^2\omega_4 cs^2 + 4\omega_6^2\omega_3^3\omega_4^3 cs^2 - 30\omega_6^2\omega_3\nu_2^2\omega_4^3 + 12\omega_6\omega_3^2\omega_4^2 + 36\omega_6\omega_3^2\omega_4^3 cs^2 - 12\omega_3^2\nu_2^2\omega_4^3 - 24\omega_6^2\omega_3\omega_4^2 cs^2 - 18\omega_6^2\omega_3^3\nu_2^2\omega_4 - 6\omega_6\omega_3^2\omega_4^3 - 12\omega_6^2\omega_3^3\omega_4^2 cs^2 - 6\omega_6\omega_3^3\omega_4^2 - 12\omega_3^2\omega_4^3 cs^2 + 36\omega_6\omega_3^3\nu_2^2\omega_4^3 - 12\omega_6^2\omega_3^3\omega_4^2 cs^2 + 24\omega_6^2\nu_2^2\omega_4^3 + 3\omega_6^2\omega_3^3\nu_2^2\omega_4^3 + 3\omega_6\omega_3^3\omega_4^3 - 24\omega_6\omega_3^2\nu_2^2\omega_4^2 + 36\omega_6^2\omega_3\omega_4^3 cs^2 - 24\omega_6\omega_3^2\omega_4^2 cs^2 + 2\omega_6^2\omega_3^3\omega_4^2 - 12\omega_6\omega_3\nu_2^2\omega_4^3 + 6\omega_3^3\nu_2^2\omega_4^3 - 12\omega_6\omega_3^3\omega_4^3 cs^2 - \omega_6^2\omega_3^3\omega_4^3 + 6\omega_6^2\omega_3^3\omega_4 cs^2 - 32\omega_6^2\omega_3^3\omega_4^3 cs^2 + 12\omega_6\omega_3^3\omega_4^2 cs^2 - 6\omega_6^2\omega_3^3\omega_4^2 + 12\omega_6\omega_3^3\nu_2^2\omega_4^2 + 48\omega_6^2\omega_3^3\omega_4^2 cs^2 - 12\omega_6\omega_3\omega_4^3 cs^2 - 12\omega_6\omega_3^3\nu_2^2\omega_4^3 + 6\omega_3^3\omega_4^3 cs^2 + 12\omega_6^2\omega_3^3\nu_2^2\omega_4^2 + 3\omega_6^2\omega_3^3\omega_4^3 + 12\omega_6^2\omega_3^3\nu_2^2$$

$$C_{52} = 6\omega_3^3 cs^2 - 36\omega_6\omega_3 cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 - 44\omega_6^2\omega_3^2 cs^2 - 12\omega_6\omega_3^3\nu_2^2 - 6\omega_3^3 - 36\omega_6\omega_3^2 - 12\omega_3^2 cs^2 + 12\omega_6^2\nu_2^2 + 48\omega_6\omega_3^2\nu_2^2 + 4\omega_6^2\omega_3^3 cs^2 + 9\omega_6\omega_3^3 + 6\omega_3^3\nu_2^2 - 36\omega_6\omega_3\nu_2^2 - \omega_6^2\omega_3^3 - 8\omega_6^2\omega_3^3\nu_2^2 - 12\omega_6\omega_3^3 cs^2 + 11\omega_6^2\omega_3^3 + 90\omega_6^2\omega_3 cs^2 - 12\omega_6^2\omega_3 - 12\omega_3^2\nu_2^2 - 48\omega_6^2 cs^2 + 48\omega_6\omega_3^2 cs^2 + \omega_6^2\omega_3^3\nu_2^2$$

$$C_{53} = 12\omega_7^2\omega_4 cs^2 - 6\omega_4^3 cs^2\omega_2 + 12\nu_3^2\omega_4^2\omega_2 + 12\omega_7\omega_4 cs^2\omega_2 + 9\nu_3^2\omega_7\omega_4^3\omega_2 + 12\omega_7\omega_4^2 cs^2 + 22\omega_7^2\omega_4^2 cs^2\omega_2 - 30\nu_3^2\omega_7\omega_4^2\omega_2 - 6\nu_3^2\omega_7\omega_4^3 - 6\nu_3^2\omega_4^3\omega_2 + 12\nu_3^2\omega_7\omega_4^2 + 36\nu_3^2\omega_7^2\omega_4\omega_2 + 9\omega_7\omega_4^3 cs^2\omega_2 - 6\omega_7\omega_4^3 cs^2 - 10\nu_3^2\omega_7^2\omega_4^2\omega_2 + 6\nu_3^2\omega_7^2\omega_4^2 - 30\omega_7^2\omega_4 cs^2\omega_2 - \nu_3^2\omega_7^2\omega_4^3 + 12\nu_3^2\omega_7\omega_4\omega_2 - 24\nu_3^2\omega_7^2\omega_2 + 12\omega_4^2 cs^2\omega_2 + 3\omega_7^2\omega_4^3 cs^2 + 12\omega_7^2 cs^2\omega_2 + \nu_3^2\omega_7^2\omega_4^3\omega_2 - 30\omega_7\omega_4^2 cs^2\omega_2 - 18\omega_7^2\omega_4^2 cs^2 - 2\omega_7^2\omega_4^3 cs^2\omega_2 - 12\nu_3^2\omega_7^2\omega_4$$

$$C_{54} = 24\omega_7\omega_4\omega_2^3 - 12\omega_7\omega_4\omega_2^2 - 6\omega_4^2\omega_2^3 + 12\omega_7\omega_4^2\omega_2^2 - 6\omega_7\omega_4^3 + 12\omega_4^2\omega_2^2 - 10\omega_7\omega_4^2\omega_2^3 + 12\omega_7\omega_4^3\omega_2 - 7\omega_7\omega_4^3\omega_2^2 - 12\omega_7\omega_2^3 + 3\omega_4^3\omega_2^3 + \omega_7\omega_4^3\omega_2^3 - 6\omega_7\omega_4^2\omega_2 - 6\omega_4^3\omega_2^2$$

$$C_{55} = 10\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5\omega_2^2 + 4\omega_7^2\omega_4^3 cs^4\omega_5^2\omega_2^2 - 3\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5\omega_2^3 + \nu_1^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2^3 + 20\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5^2 + 2\nu_1^2\omega_7\omega_4^3 cs^2\omega_5^2\omega_2^2 + \omega_7\omega_4^3 cs^4\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4^2 cs^4\omega_5^2\omega_2 + 4\nu_3^2\omega_7^2\omega_4 cs^2\omega_5^2\omega_2^3 - 4\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5^2 + 20\nu_3^2\nu_1^2\omega_7^2\omega_4^2\omega_5^2\omega_2 - 4\nu_1^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2^2 + 10\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5\omega_2^2 - \omega_7^2\omega_4^3 cs^4\omega_5^2\omega_2^3 - 4\nu_3^2\nu_1^2\omega_7\omega_4\omega_5^2\omega_2^3 - 3\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5\omega_2^3 - 8\nu_3^2\omega_7^2\omega_4 cs^2\omega_5^2\omega_2^2 - 2\omega_7\omega_4^3 cs^4\omega_5^2\omega_2^2 - 3\nu_1^2\omega_7\omega_4^3 cs^2\omega_5^2\omega_2^3 - 8\nu_1^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2 - 4\nu_1^2\omega_7^2 cs^2\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4^2 cs^4\omega_5^2\omega_2^2 - 4\nu_3^2\omega_7^2\omega_4^2 cs^2\omega_5\omega_2^2 + 12\nu_1^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2^2 + 4\nu_1^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2 - 4\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5\omega_2 - 3\nu_3^2\nu_1^2\omega_7\omega_4^3\omega_5^2\omega_2^3 + 10\nu_1^2\omega_7\omega_4^2 cs^2\omega_5^2\omega_2^3 - 36\nu_3^2\nu_1^2\omega_7^2\omega_4^2\omega_5^2\omega_2^2 + 4\omega_7\omega_4^2 cs^4\omega_5^2\omega_2^2 + 2\nu_3^2\nu_1^2\omega_7^3\omega_5^2\omega_2^3 - 8\nu_1^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2^3 + 2\nu_3^2\omega_7^2\omega_4^2 cs^2\omega_5\omega_2^3 - 12\omega_7^2\omega_4^2 cs^4\omega_5^2\omega_2^2 - 4\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5\omega_2 - 2\omega_7^2\omega_4^3 cs^4\omega_5^2\omega_2^2 - 2\omega_7\omega_4^2 cs^4\omega_5^2\omega_2^3 - 4\nu_1^2\omega_7\omega_4^2 cs^2\omega_5^2\omega_2^2 + 2\nu_3^2\nu_1^2\omega_7\omega_4^3\omega_5^2\omega_2^2 + 20\nu_3^2\nu_1^2\omega_7^2\omega_4^2\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4^2 cs^4\omega_5\omega_2^2 - 2\nu_1^2\omega_7^2\omega_4^2 cs^2\omega_5\omega_2^3 - 4\nu_3^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2^3 - 38\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5^2\omega_2 + 2\nu_3^2\nu_1^2\omega_7^2\omega_4^2\omega_5\omega_2^3 + 4\nu_3^2\omega_7\omega_4^2 cs^2\omega_5^2\omega_2^2 + 20\nu_3^2\nu_1^2\omega_7^2\omega_5^2\omega_2^3 + 20\nu_3^2\nu_1^2\omega_7^2\omega_4\omega_5^2\omega_2^2 + 12\nu_3^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2^2 + 4\nu_1^2\omega_7^2\omega_4^2 cs^2\omega_5\omega_2^2 - 2\omega_7^2\omega_4^2 cs^4\omega_5\omega_2^2 - 38\nu_3^2\nu_1^2\omega_7^2\omega_4\omega_5^2\omega_2^2 - 4\nu_3^2\nu_1^2\omega_7^2\omega_4^2\omega_5\omega_2^2 + 10\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2 - 2\nu_3^2\omega_7\omega_4^2 cs^2\omega_5^2\omega_2^3 + 2\nu_1^2\omega_4^3 cs^2\omega_5^2\omega_2^3 + \omega_7^2\omega_4^3 cs^4\omega_5\omega_2^2 - 2\nu_1^2\omega_7^2\omega_4^3 cs^2\omega_5\omega_2^2 - 8\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2^2 - 3\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5^2\omega_2^2 - 4\nu_1^2\omega_7\omega_4 cs^2\omega_5^2\omega_2^3 - 4\nu_3^2\nu_1^2\omega_7\omega_4^2\omega_5^2\omega_2^2 - 2\omega_7^2\omega_4 cs^4\omega_5^2\omega_2^3 - 4\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_2^2 - 4\nu_1^2\omega_4^2 cs^2\omega_5^2\omega_2^3 - 4\nu_1^2\omega_7^2\omega_4 cs^2\omega_5^2\omega_2^2 + \nu_3^2\omega_7\omega_4^3 cs^2\omega_5^2\omega_2^3 - 4\nu_3^2\omega_7^2\omega_4^2 cs^2\omega_5^2\omega_2^2 + 20\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_5^2\omega_2^2 + 10\nu_3^2\nu_1^2\omega_7\omega_4^2\omega_5^2\omega_2^3 + \nu_3^2\omega_7^2\omega_4^3 cs^2\omega_5^2\omega_2^3 + \nu_1^2\omega_7^2\omega_4^3 cs^2\omega_5\omega_2^3 + 2\nu_3^2\omega_7^2\omega_4^3 cs^2\omega_2^3 - 4\nu_3^2\nu_1^2\omega_4^2\omega_5^2\omega_2^3 - 2\omega_7^2\omega_4^3 cs^4\omega_5\omega_2^2 - 2\nu_3^2\omega_7\omega_4^3 cs^2\omega_5^2\omega_2^2 + 2\nu_3^2\nu_1^2\omega_7^2\omega_4^3\omega_2^3 + 10\nu_1^2\omega_7^2\omega_4 cs^2\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4 cs^4\omega_5^2\omega_2^2$$

$$C_{56} = 6\nu_3^2\omega_4^3\omega_2^3 + 24\nu_3^2\omega_7\omega_4^2\omega_2^3 + 24\nu_3^2\omega_7^2\omega_4\omega_2^2 - 14\omega_7^2\omega_4^2 cs^2\omega_2^3 - 6\omega_7\omega_4^3 cs^2\omega_2^3 + 12\omega_7^2\omega_4^2 cs^2\omega_2^2 - 78\nu_3^2\omega_7^2\omega_4\omega_2^3 - 12\omega_7^2\omega_4^2 cs^2\omega_2 - 6\nu_3^2\omega_7\omega_4^3\omega_2^2 - 12\omega_7\omega_4 cs^2\omega_2^3 - 12\nu_3^2\omega_4^2\omega_2^3 + 6\omega_4^3 cs^2\omega_2^3 - 6\omega_7^2\omega_4^3 cs^2\omega_2^2 + 24\nu_3^2\omega_7^2\omega_4^2\omega_2 + 24\omega_7\omega_4^2 cs^2\omega_2^3 - 4\nu_3^2\omega_7^2\omega_4^3\omega_2^2 - 12\omega_7^2 cs^2\omega_2^3 + 22\nu_3^2\omega_7^2\omega_4^3\omega_2^2 + 12\nu_3^2\omega_7^2\omega_4^3 + \omega_7^2\omega_4^3 cs^2\omega_2^3 + 24\omega_7^2\omega_4 cs^2\omega_2^3 - 30\nu_3^2\omega_7^2\omega_4^3\omega_2 + 34\nu_3^2\omega_7^2\omega_4^2\omega_2^3 - 12\omega_4^2 cs^2\omega_2^3 + 48\nu_3^2\omega_7^2\omega_2^3 - 48\nu_3^2\omega_7^2\omega_4^2\omega_2^2 + 6\omega_7^2\omega_4^3 cs^2\omega_2 - 12\nu_3^2\omega_7\omega_4\omega_2^3$$

$$C_{57} = 6\nu_1^2\omega_4^3\omega_2^3 - 4\nu_1^2\omega_4^3\omega_5^2\omega_2^3 + 34\nu_1^2\omega_4^3\omega_5^2\omega_2^2 - 12\omega_4^3 cs^2\omega_5\omega_2 - 12\nu_1^2\omega_4^3\omega_2^2 + 24\omega_4^3 cs^2\omega_5\omega_2^2 - 78\nu_1^2\omega_4^3\omega_5^2\omega_2 + 24\nu_1^2\omega_4\omega_5^2\omega_2^2 - 12\omega_4 cs^2\omega_5^2\omega_2^2 + 6\omega_4^3 cs^2\omega_2^3 - 30\nu_1^2\omega_4\omega_5^2\omega_2^3 - 6\omega_4^3 cs^2\omega_5\omega_2^3 + 12\nu_1^2\omega_5^2\omega_2^3 - 12\omega_4^3 cs^2\omega_2^2 + 6\omega_4 cs^2\omega_5^2\omega_2^3 - 48\nu_1^2\omega_4^2\omega_5^2\omega_2^2 + \omega_4^3 cs^2\omega_5^2\omega_2^3 - 12\nu_1^2\omega_4^3\omega_5\omega_2 - 14\omega_4^3 cs^2\omega_5^2\omega_2^2 - 12\omega_4^3 cs^2\omega_5^2 + 22\nu_1^2\omega_4^2\omega_5^2\omega_2^3 + 12\omega_4^2 cs^2\omega_5^2\omega_2^2 + 24\omega_4^3 cs^2\omega_5^2\omega_2 + 24\nu_1^2\omega_4^3\omega_5\omega_2^2 - 6\omega_4^2 cs^2\omega_5^2\omega_2^3 + 48\nu_1^2\omega_4^3\omega_5^2 + 24\nu_1^2\omega_4^2\omega_5^2\omega_2 - 6\nu_1^2\omega_4^3\omega_5\omega_2^3$$

$$C_{58} = 12\omega_7^2\omega_4 cs^2 + 12\omega_3\nu_3^2\omega_4^2 - 10\omega_3\nu_3^2\omega_7^2\omega_4^2 - 6\omega_3\nu_3^2\omega_4^3 - 2\omega_3\omega_7^2\omega_4^3 cs^2 + 12\omega_7\omega_4^2 cs^2 + \omega_3\nu_3^2\omega_7^2\omega_4^3 - 6\nu_3^2\omega_7\omega_4^3 - 24\omega_3\nu_3^2\omega_7^2 + 12\omega_3\omega_7\omega_4 cs^2 + 12\nu_3^2\omega_7\omega_4^2 + 36\omega_3\nu_3^2\omega_7^2\omega_4 + 12\omega_3\omega_7^2 cs^2 - 6\omega_7\omega_4^3 cs^2 + 22\omega_3\omega_7^2\omega_4^2 cs^2 + 6\nu_3^2\omega_7^2\omega_4^2 + 12\omega_3\nu_3^2\omega_7\omega_4 - 6\omega_3\omega_4^3 cs^2 - 30\omega_3\omega_7^2\omega_4 cs^2 - \nu_3^2\omega_7^2\omega_4^3 + 3\omega_7^2\omega_4^3 cs^2 - 30\omega_3\omega_7\omega_4^2 cs^2 + 12\omega_3\omega_4^2 cs^2 + 9\omega_3\nu_3^2\omega_7\omega_4^3 + 9\omega_3\omega_7\omega_4^3 cs^2 - 18\omega_7^2\omega_4^2 cs^2 - 30\omega_3\nu_3^2\omega_7\omega_4^2 - 12\nu_3^2\omega_7^2\omega_4$$

$$C_{59} = -10\omega_3^3\omega_7\omega_4^2 + \omega_3^3\omega_7\omega_4^3 + 12\omega_3\omega_7\omega_4^3 + 24\omega_3^3\omega_7\omega_4 - 6\omega_3\omega_7\omega_4^2 - 6\omega_3^2\omega_4^3 - 7\omega_3^2\omega_7\omega_4^3 - 6\omega_7\omega_4^3 + 12\omega_3^2\omega_4^2 + 12\omega_3^2\omega_7\omega_4^2 - 12\omega_3^2\omega_7\omega_4 + 3\omega_3^3\omega_4^3 - 12\omega_3^3\omega_7 - 6\omega_3^3\omega_4^2$$

$$C_{60} = 6\omega_3^2\omega_7^2\omega_4^2 cs^2\omega_2^3 - 2\omega_3^2\nu_3^2\omega_7\omega_4^2\omega_2^3 + 6\omega_3^3\omega_7^2\omega_4 cs^2\omega_2^3 - 8\omega_3^3\nu_3^2\omega_7^2\omega_4^3\omega_2 + 12\omega_3^3\nu_3^2\omega_7^2\omega_4^2\omega_2^3 + 7\omega_3^2\nu_3^2\omega_7^2\omega_4\omega_2^3 - 2\omega_3^3\omega_7^2\omega_4^2 cs^2\omega_2^2 + \omega_3^2\omega_7\omega_4^3 cs^2\omega_2^3 - 12\omega_3^3\nu_3^2\omega_7^2\omega_4^2\omega_2^2 - 2\omega_3\omega_7^2\omega_4^2 cs^2\omega_2^3 + \omega_3^3\omega_7^2\omega_4 cs^2\omega_2 - 2\omega_3^3\nu_3^2\omega_7\omega_4\omega_2^3 - 2\omega_3^3\nu_3^2\omega_4^2\omega_2^3 - 2\omega_3^3\omega_7^2\omega_4 cs^2\omega_2^2 + \omega_3^3\omega_4^3 cs^2\omega_2^3 - 2\omega_3^3\omega_7^2\omega_4^3 cs^2\omega_2^2 + 4\omega_3^3\nu_3^2\omega_7^2\omega_4^2\omega_2 + 6\omega_3^3\omega_7\omega_4^2 cs^2\omega_2^3 - 2\omega_3^3\nu_3^2\omega_7^2\omega_4^3\omega_2^2 + \omega_3^2\nu_3^2\omega_7\omega_4^3\omega_2^2 + 7\omega_3^3\nu_3^2\omega_7^2\omega_4^3\omega_2^2 + \omega_3^3\nu_3^2\omega_4^3\omega_2^2 + \omega_3^3\omega_7^2\omega_4^3 cs^2\omega_2^3 -$$

$$2\omega_3^3\omega_7\omega_4^2cs^2\omega_2^2+3\omega_3v_3^2\omega_7^2\omega_4^3\omega_2^2+\omega_3\omega_7^2\omega_4^3cs^2\omega_2^3+3v_3^2\omega_7^2\omega_4^3\omega_2^3-2\omega_3^3\omega_7^2\omega_4^2cs^2\omega_2-2\omega_3^3v_3^2\omega_7\omega_4^3\omega_2^3-2\omega_3^3\omega_4^2cs^2\omega_2^3+10\omega_3^3v_3^2\omega_7^2\omega_2^3-2\omega_3^3\omega_7\omega_4cs^2\omega_2^3-2\omega_3^3\omega_7\omega_4^2cs^2\omega_2^2+7\omega_3^3v_3^2\omega_7^2\omega_4^3\omega_2^3+\omega_3^3v_3^2\omega_7\omega_4^3\omega_2^2-8\omega_3v_3^3\omega_7^2\omega_4^3\omega_2^2-8\omega_3^3v_3^2\omega_7^2\omega_4^3\omega_2^2-2\omega_3^3\omega_7^2\omega_4^3cs^2\omega_2^3+3\omega_3^3v_3^2\omega_7^2\omega_4^3\omega_2-12\omega_3^3v_3^2\omega_7^2\omega_4^2\omega_2^3+3\omega_3^3v_3^2\omega_7^2\omega_4^3-2\omega_3^3\omega_7^2\omega_4cs^2\omega_2^3+6\omega_3^3v_3^2\omega_7\omega_4^2\omega_2^3+7\omega_3^3v_3^2\omega_7^2\omega_4\omega_2^2+\omega_3^3\omega_7\omega_4^3cs^2\omega_2^2-6\omega_3^3\omega_7^2\omega_4^2cs^2\omega_2^3+4\omega_3^3v_3^2\omega_7^2\omega_4^2\omega_2^2-2\omega_3^3\omega_7\omega_4^3cs^2\omega_2^3+6\omega_3^3\omega_7^2\omega_4^2cs^2\omega_2^2+4\omega_3v_3^2\omega_7^2\omega_4^2\omega_2^3-2\omega_3^3\omega_7^2cs^2\omega_2^3-21\omega_3^3v_3^2\omega_7^2\omega_4\omega_2^3-2\omega_3^3v_3^2\omega_7\omega_4^2\omega_2^2$$

$$C_{61}=36\omega_3^3v_3^2\omega_7\omega_4^2-24\omega_3^3\omega_7^2\omega_4cs^2+24\omega_3v_3^2\omega_7^2\omega_4^2-12\omega_3^3\omega_7\omega_4^3cs^2-12\omega_3^3\omega_7^2cs^2-24\omega_3^2\omega_7\omega_4^2cs^2+6\omega_3\omega_7^2\omega_4^3cs^2+48\omega_3^3v_3^2\omega_7^2-12\omega_3^3v_3^2\omega_7\omega_4^3-30\omega_3v_3^2\omega_7^2\omega_4^3+12\omega_3^2v_3^2\omega_7\omega_4^3+36\omega_3^3\omega_7\omega_4^2cs^2+6\omega_3^3v_3^2\omega_4^3+36\omega_3^3\omega_7^2\omega_4cs^2-24\omega_3^2v_3^2\omega_7\omega_4^2-12\omega_3^3v_3^2\omega_4^2-12\omega_3^3v_3^2\omega_7\omega_4-12\omega_3\omega_7^2\omega_4^2cs^2+12\omega_3^2\omega_7\omega_4^3cs^2-32\omega_3^3\omega_7^2\omega_4^2cs^2-60\omega_3^3v_3^2\omega_7^2\omega_4^2-90\omega_3^3v_3^2\omega_7^2\omega_4+24\omega_3^2v_3^2\omega_7^2\omega_4^3+12v_3^2\omega_7^2\omega_4^3-12\omega_3^3\omega_7\omega_4cs^2-12\omega_3^3\omega_4^2cs^2-12\omega_3^2\omega_7^2\omega_4^3cs^2-5\omega_3^3v_3^2\omega_7^2\omega_4^3+4\omega_3^3\omega_7^2\omega_4^3cs^2+40\omega_3^3v_3^2\omega_7^2\omega_4^2+48\omega_3^2\omega_7^2\omega_4^2cs^2+6\omega_3^3\omega_4^3cs^2+48\omega_3^2v_3^2\omega_7^2\omega_4$$

$$C_{62}=6v_3^2\omega_4^3\omega_2^3+36v_3^2\omega_7\omega_4^2\omega_2^3+48v_3^2\omega_7^2\omega_4\omega_2^2+12\omega_7\omega_4^3cs^2\omega_2^2-32\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^3+48\omega_7^2\omega_4^2cs^2\omega_2^2-90v_3^2\omega_7^2\omega_4\omega_2^3-24v_3^2\omega_7\omega_4^3\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2-12v_3^2\omega_7\omega_4^3\omega_2^3-12\omega_7\omega_4cs^2\omega_2^3-12v_3^2\omega_4^2\omega_2^3+6\omega_4^3cs^2\omega_2^3+12v_3^2\omega_7\omega_4^3\omega_2^2-12\omega_7^2\omega_4^3cs^2\omega_2^2+24v_3^2\omega_7^2\omega_4^2\omega_2+36\omega_7\omega_4^2cs^2\omega_2^3-5v_3^2\omega_7^2\omega_4^3\omega_2^3-12\omega_7^2cs^2\omega_2^3+24v_3^2\omega_7^2\omega_4^3\omega_2^2+12v_3^2\omega_7^2\omega_4^3+4\omega_7^2\omega_4^3cs^2\omega_2^2-24\omega_7\omega_4^2cs^2\omega_2^2+36\omega_7^2\omega_4cs^2\omega_2^3-30v_3^2\omega_7^2\omega_4^3\omega_2+40v_3^2\omega_7^2\omega_4^2\omega_2^3-12\omega_4^2cs^2\omega_2^3+48v_3^2\omega_7^2\omega_2^3-60v_3^2\omega_7^2\omega_4^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2-12v_3^2\omega_7\omega_4\omega_2^3-24\omega_7^2\omega_4cs^2\omega_2^2$$

$$C_{63}=-30\omega_3\omega_4^3\omega_2^3-30\omega_3^3\omega_4^2\omega_2^2-30\omega_3^3\omega_4^3\omega_2+28\omega_3^3\omega_4^2\omega_2^3+18\omega_3\omega_4^3\omega_2^2+24\omega_3^3\omega_4^3\omega_2^2+6\omega_3\omega_4^2\omega_2^3+18\omega_3^2\omega_4\omega_2^3+6\omega_3^3\omega_4^2\omega_2-5\omega_3^3\omega_4^3\omega_2^3-30\omega_3^2\omega_4^2\omega_2^3+18\omega_3^2\omega_4^3\omega_2+12\omega_3^3\omega_2^3+12\omega_3^2\omega_4^2\omega_2^2-36\omega_3^3\omega_4\omega_2^3+24\omega_3^2\omega_4^3\omega_2^2+12\omega_3^3\omega_4^3+12\omega_4^3\omega_2^3-42\omega_3^2\omega_4^3\omega_2^2+18\omega_3^3\omega_4\omega_2^2$$

$$C_{64}=2\omega_6\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6^2\omega_3^3v_3^2v_2^2\omega_7\omega_4-4\omega_3^2v_3^2\omega_7^2\omega_4^3cs^2+10\omega_6\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^3+4\omega_6^2\omega_3^2\omega_7\omega_4^2cs^4-2\omega_6^2\omega_3\omega_7^2\omega_4^3cs^4+2\omega_6^2\omega_3^2v_3^2\omega_7\omega_4^3cs^2+20\omega_6^2\omega_3^3v_3^2v_2^2\omega_7^2+\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^3cs^2-2\omega_6\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^2-2\omega_6^2\omega_3^2v_3^2\omega_7\omega_4^3cs^2+4\omega_6^2\omega_3^2\omega_7^2\omega_4cs^4+\omega_6^2\omega_3^3\omega_7\omega_4^3cs^4-4\omega_6\omega_3v_3^2v_2^2\omega_7^2\omega_4^3+\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^3cs^2+20\omega_6^2\omega_3^2v_3^2v_2^2\omega_7^2\omega_4-2\omega_6^2\omega_3^3\omega_7^2\omega_4cs^4-8\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6^2\omega_3^3v_3^2v_2^2\omega_4^2-36\omega_6^2\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^2-38\omega_6^2\omega_3\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^3+4\omega_6^2\omega_3\omega_7^2\omega_4^2cs^4-4\omega_6^2\omega_3^2v_3^2\omega_7\omega_4^2cs^2-3\omega_6\omega_3^3v_3^2\omega_7^2\omega_4^3cs^2+2\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^3-8\omega_6^2\omega_3^2v_3^2\omega_7^2\omega_4cs^2-2\omega_6^2\omega_3^2\omega_7\omega_4^3cs^4-3\omega_6^2\omega_3^3v_3^2v_2^2\omega_7\omega_4^3+20\omega_6^2\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^3+2\omega_6^2\omega_3^3v_3^2v_2^2\omega_4^3-4\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2+20\omega_6^2v_3^2v_2^2\omega_7^2\omega_4^3-4\omega_6^2\omega_3^2v_2^2\omega_7\omega_4cs^2-2\omega_6^2\omega_3^3\omega_7\omega_4^2cs^4+10\omega_6^2\omega_3^3v_3^2v_2^2\omega_7\omega_4^2+4\omega_6^2\omega_3^2v_3^2\omega_7\omega_4^2cs^2-4\omega_6^2\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^2+\omega_6\omega_3^3v_2^2\omega_7^2\omega_4^3cs^2-4\omega_6^2\omega_3^2v_2^2\omega_7^2\omega_4cs^2+20\omega_6\omega_3v_3^2v_2^2\omega_7^2\omega_4^2+4\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4cs^2-4\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^3+10\omega_6\omega_3^2v_3^2\omega_7^2\omega_4^3cs^2+2\omega_6^2\omega_3^2v_3^2v_2^2\omega_7\omega_4^3+10\omega_6^2\omega_3^3v_2^2\omega_7\omega_4^2cs^2-4\omega_6^2\omega_3v_3^2\omega_7^2\omega_4^2cs^2+4\omega_6^2\omega_3^2\omega_7^2\omega_4^3cs^4+2\omega_6^2\omega_3^3v_2^2\omega_4^3cs^2-2\omega_6\omega_3^3\omega_7^2\omega_4^2cs^4+20\omega_6^2\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^2+12\omega_6^2\omega_3^2v_3^2v_2^2\omega_7^2\omega_4^2cs^2-2\omega_6\omega_3^2v_3^2\omega_7^2\omega_4^3cs^4+10\omega_6^2\omega_3^3v_2^2\omega_7^2\omega_4cs^2-2\omega_6\omega_3^2v_3^2\omega_7^2\omega_4^3cs^2+4\omega_6^2\omega_3^3\omega_7^2\omega_4^2cs^4-8\omega_6^2\omega_3\omega_3^2v_3^2\omega_7^2\omega_4^2cs^2-2\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6^2\omega_3^2v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6^2\omega_3^3v_2^2\omega_7^2\omega_4^2cs^2+\omega_6\omega_3^3\omega_7^2\omega_4^3cs^4+20\omega_6^2\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^2-4\omega_6^2\omega_3^3v_2^2\omega_7^2\omega_4^2cs^2-3\omega_6^2\omega_3^3v_2^2\omega_7\omega_4^3cs^2+10\omega_6^2\omega_3v_3^2\omega_7^2\omega_4^3cs^2-4\omega_6\omega_3^2v_3^2\omega_7^2\omega_4^2cs^2-3\omega_6\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^3+2\omega_3^3v_3^2\omega_7^2\omega_4^3cs^2-38\omega_6^2\omega_3^3v_3^2v_2^2\omega_7^2\omega_4-8\omega_6^2\omega_3^3v_3^2\omega_7^2\omega_4^2cs^2-4\omega_6^2v_3^2\omega_7^2\omega_4^3cs^2+4\omega_6^2\omega_3v_3^2\omega_7^2\omega_4^3cs^2+\omega_6^2\omega_3^3v_3^2\omega_7\omega_4^3cs^2+2\omega_6\omega_3^3v_3^2v_2^2\omega_7^2\omega_4^2+4\omega_6^2\omega_3^3\omega_7^2\omega_4^2cs^4-\omega_6^2\omega_3^3\omega_7^2\omega_4^3cs^4+4\omega_6\omega_3^2v_3^2\omega_7^2\omega_4^2cs^2$$

$$C_{65}=24\omega_3^3v_3^2\omega_7\omega_4^2+24\omega_3v_3^2\omega_7^2\omega_4^2-6\omega_3^3\omega_7\omega_4^3cs^2-12\omega_3^3\omega_7^2cs^2+6\omega_3\omega_7^2\omega_4^3cs^2+48\omega_3^3v_3^2\omega_7^2-6\omega_3^3v_3^2\omega_7\omega_4^3-30\omega_3v_3^2\omega_7^2\omega_4^3+24\omega_3^3\omega_7\omega_4^2cs^2+6\omega_3^3v_3^2\omega_4^3+24\omega_3^3\omega_7^2\omega_4cs^2-12\omega_3^3v_3^2\omega_4^2-12\omega_3^3v_3^2\omega_7\omega_4-12\omega_3\omega_7^2\omega_4^2cs^2-14\omega_3^3\omega_7^2\omega_4^2cs^2-48\omega_3^3v_3^2\omega_7^2\omega_4^2-78\omega_3^3v_3^2\omega_7^2\omega_4+22\omega_3^3v_3^2\omega_7^2\omega_4^3+12v_3^2\omega_7^2\omega_4^3-12\omega_3^3\omega_7\omega_4cs^2-12\omega_3^3\omega_4^2cs^2-6\omega_3^2\omega_7^2\omega_4^3cs^2-4\omega_3^3v_3^2\omega_7^2\omega_4^3+\omega_3^3\omega_7^2\omega_4^3cs^2+34\omega_3^3v_3^2\omega_7^2\omega_4^2+12\omega_3^2\omega_7^2\omega_4^2cs^2+6\omega_3^3\omega_4^3cs^2+24\omega_3^2v_3^2\omega_7^2\omega_4$$

$$C_{66}=-12\omega_6^2\omega_3^2\omega_4cs^2+\omega_6^2\omega_3^3\omega_4^3cs^2-78\omega_6^2\omega_3v_2^2\omega_4^3+24\omega_6\omega_3^2\omega_3^4cs^2-12\omega_3^2v_2^2\omega_4^3-30\omega_6^2\omega_3^3v_2^2\omega_4-12\omega_6^2\omega_3^4cs^2+24\omega_6^2\omega_3v_2^2\omega_4^2-12\omega_3^2\omega_4^3cs^2+22\omega_6^2\omega_3^3v_2^2\omega_4^2+24\omega_6\omega_3^3v_2^2\omega_4^3-6\omega_6^2\omega_3^3\omega_4^2cs^2+48\omega_6^2v_2^2\omega_4^3-4\omega_6^2\omega_3^3v_2^2\omega_4^3+24\omega_6^2\omega_3\omega_4^3cs^2+24\omega_6^2\omega_3^2v_2^2\omega_4-12\omega_6\omega_3v_2^2\omega_4^3+6\omega_3^3v_2^2\omega_4^3-6\omega_6\omega_3^3\omega_4^3cs^2+6\omega_6^2\omega_3^3\omega_4cs^2-14\omega_6^2\omega_3^2\omega_4^3cs^2+34\omega_6^2\omega_3^2v_2^2\omega_4^3+12\omega_6^2\omega_3^2\omega_4^2cs^2-12\omega_6\omega_3\omega_4^3cs^2-6\omega_6\omega_3^3v_2^2\omega_4^3+6\omega_3^3\omega_4^3cs^2-48\omega_6^2\omega_3^2v_2^2\omega_4^2+12\omega_6^2\omega_3^3v_2^2$$

$$C_{67}=-48\omega_7^2\omega_4cs^2+48v_3^2\omega_7\omega_4+12\omega_4^2cs^2+12\omega_7^2\omega_4-36\omega_7\omega_4^2cs^2-6\omega_4^3cs^2+15v_3^2\omega_7\omega_4^3-11\omega_7^2\omega_4^2-60v_3^2\omega_7\omega_4^2+9\omega_7\omega_4^3cs^2+\omega_7^2\omega_4^3+27v_3^2\omega_7^2\omega_4^2+6\omega_4^3+12v_3^2\omega_7^2-9\omega_7\omega_4^3+24\omega_7^2cs^2-3v_3^2\omega_7^2\omega_4^3+36\omega_7\omega_4^2-12\omega_4^2-2\omega_7^2\omega_4^3cs^2-24\omega_7\omega_4+12v_3^2\omega_4^2+24\omega_7\omega_4cs^2+25\omega_7^2\omega_4^2cs^2-6v_3^2\omega_4^3-42v_3^2\omega_7^2\omega_4$$

$$C_{68}=\omega_7^2\omega_4^3\omega_2^2+6v_3^2\omega_4^3\omega_2^3+42v_3^2\omega_7\omega_4^2\omega_2^3+12v_3^2\omega_7^2\omega_4\omega_2^2+6\omega_7\omega_4^3cs^2\omega_2^2-48\omega_7^2\omega_4^2cs^2\omega_2^3-\omega_7^2\omega_4^3\omega_2^3-12\omega_7\omega_4^3cs^2\omega_2^3+42\omega_7^2\omega_4^2cs^2\omega_2^2-30v_3^2\omega_7^2\omega_4\omega_2^3-12v_3^2\omega_7\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2-12v_3^2\omega_7\omega_4^3\omega_2^3-24\omega_7\omega_4cs^2\omega_2^3-3\omega_7^2\omega_4^2\omega_2^2-12v_3^2\omega_4^2\omega_2^3+12\omega_7\omega_4\omega_2^3+6\omega_4^3cs^2\omega_2^3+6v_3^2\omega_7\omega_4^3\omega_2^2+7\omega_7^2\omega_4^2\omega_2^3-12\omega_7^2\omega_4^3cs^2\omega_2^2+6v_3^2\omega_7^2\omega_4^2\omega_2+42\omega_7\omega_4^2cs^2\omega_2^3+6\omega_4^2\omega_2^3-36\omega_7^2cs^2\omega_2^3-6\omega_7^2\omega_4\omega_2^3+6\omega_7\omega_4^2\omega_2^2+6v_3^2\omega_7^2\omega_4^3\omega_2^2+6v_3^2\omega_7^2\omega_4^2\omega_2^3+6\omega_7^2\omega_4^3cs^2\omega_2^2-12\omega_7\omega_4^2cs^2\omega_2^2-21\omega_7\omega_4^2\omega_2^3-3\omega_7\omega_4^3\omega_2^2+78\omega_7^2\omega_4cs^2\omega_2^3-12v_3^2\omega_7^2\omega_4^3\omega_2-3\omega_4^3\omega_2^3+6v_3^2\omega_7^2\omega_4^2\omega_2^3+6\omega_7\omega_4^3\omega_2^3-12\omega_4^2cs^2\omega_2^3+24v_3^2\omega_7^2\omega_2^3-12v_3^2\omega_7^2\omega_4^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2-24v_3^2\omega_7\omega_4\omega_2^3-24\omega_7^2\omega_4cs^2\omega_2^2$$

$$C_{69}=90\omega_7^2\omega_4cs^2-36v_3^2\omega_7\omega_4-12\omega_4^2cs^2-12\omega_7^2\omega_4+48\omega_7\omega_4^2cs^2+6\omega_4^3cs^2-12v_3^2\omega_7\omega_4^3+11\omega_7^2\omega_4^2+48v_3^2\omega_7\omega_4^2-12\omega_7\omega_4^3cs^2-\omega_7^2\omega_4^3-8v_3^2\omega_7^2\omega_4^2-6\omega_4^3+12v_3^2\omega_7^2+9\omega_7\omega_4^3-48\omega_7^2cs^2+v_3^2\omega_7^2\omega_4^3-36\omega_7\omega_4^2+12\omega_4^2+4\omega_7^2\omega_4^3cs^2+24\omega_7\omega_4-12v_3^2\omega_4^2-36\omega_7\omega_4cs^2-44\omega_7^2\omega_4^2cs^2+6v_3^2\omega_4^3$$

$$C_{70}=2\omega_7^2\omega_4^3\omega_2^2+6v_3^2\omega_4^3\omega_2^3+36v_3^2\omega_7\omega_4^2\omega_2^3+12\omega_7\omega_4^3cs^2\omega_2^2-32\omega_7^2\omega_4^2cs^2\omega_2^2-\omega_7^2\omega_4^3\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^2+48\omega_7^2\omega_4^2cs^2\omega_2^2-30v_3^2\omega_7^2\omega_4\omega_2^2-24v_3^2\omega_7\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2-12v_3^2\omega_7\omega_4^3\omega_2^3-12\omega_7\omega_4cs^2\omega_2^3-6\omega_7^2\omega_4^2\omega_2^2-12v_3^2\omega_4^2\omega_2^3+6\omega_4^3cs^2\omega_2^3+12v_3^2\omega_7\omega_4^3\omega_2^2+3\omega_7^2\omega_4^2\omega_2^3-12\omega_7^2\omega_4^3cs^2\omega_2^2+36\omega_7\omega_4^2cs^2\omega_2^3+3v_3^2\omega_7^2\omega_4^3\omega_2^2-12\omega_7^2cs^2\omega_2^3+12\omega_7\omega_4^2\omega_2^2+12v_3^2\omega_7^2\omega_2^3+4\omega_7^2\omega_4^3cs^2\omega_2^2-24\omega_7\omega_4^2cs^2\omega_2^2-6\omega_7\omega_4^2\omega_2^3-6\omega_7\omega_4^3\omega_2^2+36\omega_7^2\omega_4cs^2\omega_2^3-18v_3^2\omega_7^2\omega_4^3\omega_2+3\omega_7\omega_4^3\omega_2^3-12\omega_4^2cs^2\omega_2^3+24v_3^2\omega_7^2\omega_2^3+12v_3^2\omega_7^2\omega_4^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2-12v_3^2\omega_7\omega_4\omega_2^3-24\omega_7^2\omega_4cs^2\omega_2^2$$

$$C_{71}=42\omega_3^3v_3^2\omega_7\omega_4^2-21\omega_3^3\omega_7\omega_4^2-24\omega_3^2\omega_7^2\omega_4cs^2+6\omega_3v_3^2\omega_7^2\omega_4^2-12\omega_3^3\omega_7\omega_4^3cs^2-36\omega_3^3\omega_7^2cs^2-12\omega_3^2\omega_7\omega_4^2cs^2+6\omega_3\omega_7^2\omega_4^3cs^2+24\omega_3^3v_3^2\omega_7^2+6\omega_3^3\omega_7\omega_4^3-12\omega_3^3v_3^2\omega_7\omega_4^3-12\omega_3v_3^2\omega_7^2\omega_4^3+6\omega_3^3v_3^2\omega_7\omega_4^3+12\omega_3^2v_3^2\omega_7^2\omega_4^3+42\omega_3^3\omega_7\omega_4^2cs^2-3\omega_3^3\omega_7^2\omega_4^2+6\omega_3^3v_3^2\omega_4^3+78\omega_3^3\omega_7^2\omega_4cs^2-12\omega_3^3v_3^2\omega_7\omega_4^2+12\omega_3^3\omega_7\omega_4-12\omega_3^3v_3^2\omega_4^2-24\omega_3^3v_3^2\omega_7\omega_4-12\omega_3\omega_7^2\omega_4^2cs^2+6\omega_3^2\omega_7\omega_4^3cs^2+\omega_3^2\omega_7^2\omega_4^3-48\omega_3^3\omega_7^2\omega_4^2cs^2-12\omega_3^3v_3^2\omega_7^2\omega_4^2-6\omega_3^3\omega_7^2\omega_4-30\omega_3^3v_3^2\omega_7^2\omega_4-3\omega_3^2\omega_7\omega_4^3+6\omega_3^2v_3^2\omega_7^2\omega_4^3+6v_3^2\omega_7^2\omega_4^3-24\omega_3^3\omega_7\omega_4cs^2-12\omega_3^3\omega_4^2cs^2-12\omega_3^2\omega_7^2\omega_4^3cs^2+6\omega_3^2\omega_7\omega_4^2-\omega_3^3\omega_7^2\omega_4^3+6\omega_3^3\omega_7^2\omega_4^3cs^2-3\omega_3^3\omega_4^3+6\omega_3^3v_3^2\omega_7^2\omega_4^2+7\omega_3^3\omega_7^2\omega_4^2+42\omega_3^2\omega_7^2\omega_4^2cs^2+6\omega_3^3\omega_4^2+6\omega_3^3\omega_4^3cs^2+12\omega_3^3v_3^2\omega_7^2\omega_4$$

$$C_{72}=90\omega_7^2\omega_4cs^2-36v_3^2\omega_7\omega_4-12\omega_4^2cs^2-12\omega_7^2\omega_4+48\omega_7\omega_4^2cs^2+6\omega_4^3cs^2-12v_3^2\omega_7\omega_4^3+11\omega_7^2\omega_4^2+48v_3^2\omega_7\omega_4^2-12\omega_7\omega_4^3cs^2-\omega_7^2\omega_4^3-8v_3^2\omega_7^2\omega_4^2-6\omega_4^3+12v_3^2\omega_7^2+9\omega_7\omega_4^3-48\omega_7^2cs^2+v_3^2\omega_7^2\omega_4^3-36\omega_7\omega_4^2+12\omega_4^2+4\omega_7^2\omega_4^3cs^2+24\omega_7\omega_4-12v_3^2\omega_4^2-36\omega_7\omega_4cs^2-44\omega_7^2\omega_4^2cs^2+6v_3^2\omega_4^3$$

$C_{73} = 36\omega_3^3 v_3^2 \omega_7 \omega_4^2 - 6\omega_3^3 \omega_7 \omega_4^2 - 24\omega_3^2 \omega_7^2 \omega_4 cs^2 - 12\omega_3^3 \omega_7 \omega_4^3 cs^2 - 12\omega_3^3 \omega_7^2 cs^2 - 24\omega_3^2 \omega_7 \omega_4^2 cs^2 + 6\omega_3 \omega_7^2 \omega_4^3 cs^2 + 24\omega_3^3 v_3^2 \omega_7^2 + 3\omega_3^3 \omega_7 \omega_4^3 - 12\omega_3^3 v_3^2 \omega_7 \omega_4^3 - 18\omega_3 v_3^2 \omega_7^2 \omega_4^3 + 12\omega_3^2 v_3^2 \omega_7 \omega_4^3 + 36\omega_3^3 \omega_7 \omega_4^2 cs^2 - 6\omega_3^2 \omega_7^2 \omega_4^2 + 6\omega_3^3 v_3^2 \omega_4^3 + 36\omega_3^3 \omega_7^2 \omega_4 cs^2 - 24\omega_3^2 v_3^2 \omega_7 \omega_4^2 - 12\omega_3^3 v_3^2 \omega_4^2 - 12\omega_3^3 v_3^2 \omega_7 \omega_4 - 12\omega_3 \omega_7^2 \omega_4^2 cs^2 + 12\omega_3^2 \omega_7 \omega_4^3 cs^2 + 2\omega_3^2 \omega_7^2 \omega_4^3 - 32\omega_3^3 \omega_7^2 \omega_4^2 cs^2 + 12\omega_3^2 v_3^2 \omega_7^2 \omega_4^2 - 30\omega_3^3 v_3^2 \omega_7^2 \omega_4 - 6\omega_3^2 \omega_7 \omega_4^3 + 12v_3^2 \omega_7^2 \omega_4^3 - 12\omega_3^3 \omega_7 \omega_4 cs^2 - 12\omega_3^3 \omega_4^2 cs^2 - 12\omega_3^2 \omega_7^2 \omega_4^3 cs^2 + 12\omega_3^2 \omega_7 \omega_4^2 - \omega_3^3 \omega_7^2 \omega_4^3 + 3\omega_3^3 v_3^2 \omega_7^2 \omega_4^3 + 4\omega_3^3 \omega_7^2 \omega_4^3 cs^2 + 3\omega_3^3 \omega_7^2 \omega_4^2 + 48\omega_3^2 \omega_7^2 \omega_4^2 cs^2 + 6\omega_3^3 \omega_4^3 cs^2$

$C_{74} = 12\omega_7^2 \omega_4 cs^2 - 18v_3^4 \omega_7 \omega_4^3 + 48v_3^2 \omega_7 \omega_4 + 24\omega_7 \omega_4 cs^4 + 6v_3^2 \omega_7^2 \omega_4^3 cs^2 + 72v_3^4 \omega_7 \omega_4^2 + 24\omega_7 \omega_4^2 cs^2 + 24\omega_7^2 \omega_4^2 cs^4 - 72v_3^2 \omega_7^2 \omega_4^2 cs^2 + 12v_3^4 \omega_4^3 + 18v_3^2 \omega_7 \omega_4^3 - 48v_3^4 \omega_7 \omega_4 - 72v_3^2 \omega_7 \omega_4^2 - 24v_3^4 \omega_4^2 - 3\omega_7^2 \omega_4^3 cs^4 - 24v_3^2 \omega_7 \omega_4 cs^2 - 6\omega_7 \omega_4^3 cs^2 + 24\omega_7^2 cs^4 - 96v_3^2 \omega_7^2 cs^2 + 24v_3^2 \omega_7^2 \omega_4^2 + 48v_3^2 \omega_7 \omega_4^2 cs^2 + 12v_3^2 \omega_4^3 cs^2 + 6\omega_7 \omega_4^3 cs^4 + 156v_3^2 \omega_7^2 \omega_4 cs^2 - 3v_3^2 \omega_7^2 \omega_4^3 + 24v_3^4 \omega_7^2 \omega_4 + \omega_7^2 \omega_4^3 cs^2 + 24v_3^2 \omega_4^2 - 24v_3^4 \omega_7^2 \omega_4^2 - 24v_3^2 \omega_4^2 cs^2 - 24\omega_7 \omega_4 cs^2 - 48\omega_7^2 \omega_4 cs^4 - 12v_3^2 \omega_7 \omega_4^3 cs^2 - 8\omega_7^2 \omega_4^2 cs^2 + 3v_3^4 \omega_7^2 \omega_4^3 - 12v_3^2 \omega_4^3 - 24v_3^2 \omega_7^2 \omega_4 - 24\omega_7 \omega_4^2 cs^4$

$C_{75} = 42\omega_7^2 \omega_4 cs^2 - 12v_3^2 \omega_7 \omega_4 - 12\omega_4^2 cs^2 - 6\omega_7^2 \omega_4 + 24\omega_7 \omega_4^2 cs^2 + 6\omega_4^3 cs^2 - 6v_3^2 \omega_7 \omega_4^3 + 8\omega_7^2 \omega_4^2 + 24v_3^2 \omega_7 \omega_4^2 - 6\omega_7 \omega_4^3 cs^2 - \omega_7^2 \omega_4^3 - 16v_3^2 \omega_7^2 \omega_4^2 - 6\omega_4^3 - 12v_3^2 \omega_7^2 + 6\omega_7 \omega_4^3 - 24\omega_7^2 cs^2 + 2v_3^2 \omega_7^2 \omega_4^3 - 24\omega_7 \omega_4^2 + 12\omega_4^2 + \omega_7^2 \omega_4^3 cs^2 + 12\omega_7 \omega_4 - 12v_3^2 \omega_4^2 - 12\omega_7 \omega_4 cs^2 - 20\omega_7^2 \omega_4^2 cs^2 + 6v_3^2 \omega_4^3 + 24v_3^2 \omega_7^2 \omega_4$

2.3 MRT2

2.3.1 Definitions

Collision operator $\boldsymbol{C}$:

$$\boldsymbol{C}(\boldsymbol{f}) = \mathbf{M}_2^{-1} \mathbf{S} \left(\boldsymbol{\mu}_2^{(eq)} - \mathbf{M}_2 \boldsymbol{f} \right),$$

where

$$\mathbf{S} = \mathrm{diag}(\omega_1, \omega_2, \omega_3, \omega_4, \omega_5, \omega_6, \omega_7),$$

$\omega_1, \omega_2, \ldots, \omega_7 \in (0, 2)$.
Matrix $\mathbf{M}_2$ corresponds to the transformation matrix to the raw moment basis defined by

$$\boldsymbol{\mu}_2 = \begin{pmatrix} m_{(0,0,0)} \\ m_{(1,0,0)} \\ m_{(0,1,0)} \\ m_{(0,0,1)} \\ m_{(2,0,0)} + m_{(0,2,0)} + m_{(0,0,2)} \\ m_{(2,0,0)} - m_{(0,2,0)} \\ m_{(2,0,0)} - m_{(0,0,2)} \end{pmatrix},$$

and is given by

$$\mathbf{M}_2 = \begin{pmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & 0 & 0 & -1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & -1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 & -1 \\ 0 & 1 & 1 & 1 & 1 & 1 & 1 \\ 0 & 1 & -1 & 0 & 1 & -1 & 0 \\ 0 & 1 & 0 & -1 & 1 & 0 & -1 \end{pmatrix}.$$

The equilibrium moments $\boldsymbol{\mu}_2^{(eq)}$ are defined by

$$\boldsymbol{\mu}_2^{(eq)} = \mathbf{M}_2 \mathbf{M}^{-1} \boldsymbol{\mu}^{(eq)},$$

i.e.,

$$\boldsymbol{\mu}_2^{(eq)} = \begin{pmatrix} \rho \\ \rho v_1 \\ \rho v_2 \\ \rho v_3 \\ \rho(v_3^2 + v_2^2 + v_1^2 + 3c_s^2) \\ \rho(v_1^2 - v_2^2) \\ \rho(v_1^2 - v_3^2) \end{pmatrix}.$$

2.3.2 Conservation of mass equation

attached text file: `output_d3q7_ade_mrt2_symbolic_pde_00.txt`

$$\frac{\partial \rho}{\partial t} + \frac{v_1 \delta_l}{\delta_t}\frac{\partial \rho}{\partial x_1} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_1}{\partial x_1} + \frac{v_2 \delta_l}{\delta_t}\frac{\partial \rho}{\partial x_2} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_2}{\partial x_2} + \frac{v_3 \delta_l}{\delta_t}\frac{\partial \rho}{\partial x_3} + \frac{\delta_l \rho}{\delta_t}\frac{\partial v_3}{\partial x_3} + (-2+\omega_2)\frac{\delta_l}{2\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} +$$
$$(-2+\omega_2)\frac{v_1 \delta_l^2}{2\omega_2 \delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1} + (-2+\omega_2)\frac{\delta_l^2 \rho}{2\omega_2 \delta_t}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + (2-\omega_3)\frac{v_2 \delta_l^2}{2\omega_3 \delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + (\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_1 \delta_l^2}{\omega_2\omega_3 \delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} +$$
$$(\omega_2 - \omega_2\omega_3 + \omega_3)\frac{\delta_l^2 \rho}{\omega_2\omega_3 \delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2} + (2-\omega_4)\frac{v_3 \delta_l^2}{2\omega_4 \delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3} + (\omega_4 + \omega_2 - \omega_4\omega_2)\frac{v_1 \delta_l^2}{\omega_4\omega_2 \delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3} +$$
$$(\omega_4 + \omega_2 - \omega_4\omega_2)\frac{\delta_l^2 \rho}{\omega_4\omega_2 \delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3} + (-2+\omega_3)\frac{\delta_l}{2\omega_3}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t} + (\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_2 \delta_l^2}{\omega_2\omega_3 \delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1} + (2-\omega_2)\frac{v_1 \delta_l^2}{2\omega_2 \delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1}$$
$$+ (-2+\omega_3)\frac{v_2 \delta_l^2}{2\omega_3 \delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2} + (-2+\omega_3)\frac{\delta_l^2 \rho}{2\omega_3 \delta_t}\left(\frac{\partial v_2}{\partial x_2}\right)^2 + (2-\omega_4)\frac{v_3 \delta_l^2}{2\omega_4 \delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3} + (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_2 \delta_l^2}{\omega_4\omega_3 \delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3} +$$
$$(\omega_4 - \omega_4\omega_3 + \omega_3)\frac{\delta_l^2 \rho}{\omega_4\omega_3 \delta_t}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3} + (-2+\omega_4)\frac{\delta_l}{2\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t} + (\omega_4 + \omega_2 - \omega_4\omega_2)\frac{v_3 \delta_l^2}{\omega_4\omega_2 \delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1} + (2-\omega_2)\frac{v_1 \delta_l^2}{2\omega_2 \delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1}$$
$$+ (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_3 \delta_l^2}{\omega_4\omega_3 \delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2} + (2-\omega_3)\frac{v_2 \delta_l^2}{2\omega_3 \delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2} + (-2+\omega_4)\frac{v_3 \delta_l^2}{2\omega_4 \delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3} + (-2+\omega_4)\frac{\delta_l^2 \rho}{2\omega_4 \delta_t}\left(\frac{\partial v_3}{\partial x_3}\right)^2 +$$
$$(-2+\omega_2)\frac{\delta_l \rho}{2\omega_2}\frac{\partial^2 v_1}{\partial t \partial x_1} + (-2+\omega_2)\frac{c s^2 \delta_l^2}{2\omega_2 \delta_t}\frac{\partial^2 \rho}{\partial x_1^2} + (-2+\omega_2)\frac{v_1 \delta_l^2 \rho}{2\omega_2 \delta_t}\frac{\partial^2 v_1}{\partial x_1^2} + (-2+\omega_3)\frac{\delta_l \rho}{2\omega_3}\frac{\partial^2 v_2}{\partial t \partial x_2} +$$
$$(\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_2 v_1 \delta_l^2}{\omega_2\omega_3 \delta_t}\frac{\partial^2 \rho}{\partial x_1 \partial x_2} + (2-\omega_3)\frac{v_2 \delta_l^2 \rho}{2\omega_3 \delta_t}\frac{\partial^2 v_1}{\partial x_1 \partial x_2} + (2-\omega_2)\frac{v_1 \delta_l^2 \rho}{2\omega_2 \delta_t}\frac{\partial^2 v_2}{\partial x_1 \partial x_2} + (-2+\omega_3)\frac{c s^2 \delta_l^2}{2\omega_3 \delta_t}\frac{\partial^2 \rho}{\partial x_2^2} +$$
$$(-2+\omega_3)\frac{v_2 \delta_l^2 \rho}{2\omega_3 \delta_t}\frac{\partial^2 v_2}{\partial x_2^2} + (-2+\omega_4)\frac{\delta_l \rho}{2\omega_4}\frac{\partial^2 v_3}{\partial t \partial x_3} + (\omega_4 + \omega_2 - \omega_4\omega_2)\frac{v_3 v_1 \delta_l^2}{\omega_4\omega_2 \delta_t}\frac{\partial^2 \rho}{\partial x_1 \partial x_3} + (2-\omega_4)\frac{v_3 \delta_l^2 \rho}{2\omega_4 \delta_t}\frac{\partial^2 v_1}{\partial x_1 \partial x_3} +$$
$$(2-\omega_2)\frac{v_1 \delta_l^2 \rho}{2\omega_2 \delta_t}\frac{\partial^2 v_3}{\partial x_1 \partial x_3} + (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_3 v_2 \delta_l^2}{\omega_4\omega_3 \delta_t}\frac{\partial^2 \rho}{\partial x_2 \partial x_3} + (2-\omega_4)\frac{v_3 \delta_l^2 \rho}{2\omega_4 \delta_t}\frac{\partial^2 v_2}{\partial x_2 \partial x_3} + (2-\omega_3)\frac{v_2 \delta_l^2 \rho}{2\omega_3 \delta_t}\frac{\partial^2 v_3}{\partial x_2 \partial x_3} +$$
$$(-2+\omega_4)\frac{c s^2 \delta_l^2}{2\omega_4 \delta_t}\frac{\partial^2 \rho}{\partial x_3^2} + (-2+\omega_4)\frac{v_3 \delta_l^2 \rho}{2\omega_4 \delta_t}\frac{\partial^2 v_3}{\partial x_3^2} + (12 + \omega_2^2 - 12\omega_2)\frac{\delta_l \rho \delta_t}{12\omega_2^2}\frac{\partial^3 v_1}{\partial t^2 \partial x_1} + (12 - 6\omega_5 - 6\omega_2 + \omega_5\omega_2)\frac{v_1 \delta_l^2 \rho}{6\omega_5\omega_2}\frac{\partial^3 v_1}{\partial t \partial x_1^2}$$
$$+ C_1\frac{v_1 \delta_l^3}{6\omega_5\omega_2^2 \delta_t}\frac{\partial^3 \rho}{\partial x_1^3} + C_2\frac{\delta_l^3 \rho}{12\omega_5\omega_2^2 \delta_t}\frac{\partial^3 v_1}{\partial x_1^3} + (12 - 12\omega_3 + \omega_3^2)\frac{\delta_l \rho \delta_t}{12\omega_3^2}\frac{\partial^3 v_2}{\partial t^2 \partial x_2} +$$
$$(-6\omega_2 - 2\omega_2\omega_3^2 + 9\omega_2\omega_3 - 6\omega_3 + 3\omega_3^2)\frac{v_2 \delta_l^2 \rho}{6\omega_3^2}\frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_2} + (-2\omega_2^2\omega_3 + 3\omega_2^2 - 6\omega_2 + 9\omega_2\omega_3 - 6\omega_3)\frac{v_1 \delta_l^2 \rho}{6\omega_2^2\omega_3}\frac{\partial^3 v_2}{\partial t \partial x_1 \partial x_2} +$$
$$C_3\frac{v_2 \delta_l^3}{2\omega_5\omega_2^2\omega_3^2 \delta_t}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_2} + (-6\omega_2^2\omega_3 + \omega_2^2\omega_3^2 + 6\omega_2^2 - 6\omega_2\omega_3^2 + 6\omega_3^2)\frac{v_2 v_1 \delta_l^3 \rho}{6\omega_2^2\omega_3^2 \delta_t}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_2} + (-12\omega_2 v_1^2 + 6 c s^2\omega_2^2 - 6\omega_5\omega_2 v_1^2 +$$
$$18 c s^2\omega_5\omega_2 - 3 c s^2\omega_5\omega_2^2 - 12 c s^2\omega_2 - 12 c s^2\omega_5 + \omega_5\omega_2^2 v_1^2 + 12\omega_5 v_1^2 + 6\omega_2^2 v_1^2)\frac{\delta_l^3 \rho}{12\omega_5\omega_2^2 \delta_t}\frac{\partial^3 v_2}{\partial x_1^2 \partial x_2} +$$
$$(12 - 6\omega_6 - 6\omega_3 + \omega_6\omega_3)\frac{v_2 \delta_l^2 \rho}{6\omega_6\omega_3}\frac{\partial^3 v_2}{\partial t \partial x_2^2} + C_4\frac{v_1 \delta_l^3}{2\omega_2^2\omega_6\omega_3^2 \delta_t}\frac{\partial^3 \rho}{\partial x_1 \partial x_2^2} + (-3 c s^2\omega_6\omega_3^2 + v_2^2\omega_6\omega_3^2 - 6 v_2^2\omega_6\omega_3 + 18 c s^2\omega_6\omega_3 +$$
$$6 c s^2\omega_3^2 + 6 v_2^2\omega_3^2 - 12 c s^2\omega_3 - 12 v_2^2\omega_3 + 12 v_2^2\omega_6 - 12 c s^2\omega_6)\frac{\delta_l^3 \rho}{12\omega_6\omega_3^2 \delta_t}\frac{\partial^3 v_1}{\partial x_1 \partial x_2^2} +$$
$$(-6\omega_2^2\omega_3 + \omega_2^2\omega_3^2 + 6\omega_2^2 - 6\omega_2\omega_3^2 + 6\omega_3^2)\frac{v_2 v_1 \delta_l^3 \rho}{6\omega_2^2\omega_3^2 \delta_t}\frac{\partial^3 v_2}{\partial x_1 \partial x_2^2} + C_5\frac{v_2 \delta_l^3}{6\omega_6\omega_3^2 \delta_t}\frac{\partial^3 \rho}{\partial x_2^3} + C_6\frac{\delta_l^3 \rho}{12\omega_6\omega_3^2 \delta_t}\frac{\partial^3 v_2}{\partial x_2^3} +$$
$$(12 - 12\omega_4 + \omega_4^2)\frac{\delta_l \rho \delta_t}{12\omega_4^2}\frac{\partial^3 v_3}{\partial t^2 \partial x_3} + (-2\omega_4^2\omega_2 - 6\omega_4 + 3\omega_4^2 - 6\omega_2 + 9\omega_4\omega_2)\frac{v_3 \delta_l^2 \rho}{6\omega_4^2\omega_2}\frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_3} +$$
$$(-6\omega_4 + 3\omega_2^2 - 6\omega_2 - 2\omega_4\omega_2^2 + 9\omega_4\omega_2)\frac{v_1 \delta_l^2 \rho}{6\omega_4\omega_2^2}\frac{\partial^3 v_3}{\partial t \partial x_1 \partial x_3} + C_7\frac{v_3 \delta_l^3}{2\omega_2^2\omega_5\omega_4^2 \delta_t}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_3} +$$
$$(-6\omega_4^2\omega_2 + 6\omega_4^2 + 6\omega_2^2 + \omega_4^2\omega_2^2 - 6\omega_4\omega_2^2)\frac{v_3 v_1 \delta_l^3 \rho}{6\omega_4^2\omega_2^2 \delta_t}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_3} + (-12\omega_2 v_1^2 + 6 c s^2\omega_2^2 - 6\omega_5\omega_2 v_1^2 + 18 c s^2\omega_5\omega_2 -$$
$$3 c s^2\omega_5\omega_2^2 - 12 c s^2\omega_2 - 12 c s^2\omega_5 + \omega_5\omega_2^2 v_1^2 + 12\omega_5 v_1^2 + 6\omega_2^2 v_1^2)\frac{\delta_l^3 \rho}{12\omega_5\omega_2^2 \delta_t}\frac{\partial^3 v_3}{\partial x_1^2 \partial x_3} +$$

$$(-6\omega_4+3\omega_4^2+9\omega_4\omega_3-2\omega_4^2\omega_3-6\omega_3)\frac{v_3\delta_l^2\rho}{6\omega_4^2\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_2\partial x_3}+(-6\omega_4-2\omega_4\omega_3^2+9\omega_4\omega_3-6\omega_3+3\omega_3^2)\frac{v_2\delta_l^2\rho}{6\omega_4\omega_3^2}\frac{\partial^3 v_3}{\partial t\partial x_2\partial x_3}+$$
$$(\omega_4^2\omega_2^2\omega_3^2+\omega_4\omega_2\omega_3^2+\omega_2^2\omega_3^2-2\omega_4^2\omega_2^2\omega_3+\omega_4^2\omega_2^2+\omega_4^2\omega_2\omega_3+\omega_4\omega_2^2\omega_3+\omega_4^2\omega_3^2-2\omega_4\omega_2^2\omega_3^2-2\omega_4^2\omega_2\omega_3^2)\frac{2v_3v_2v_1\delta_l^3}{\omega_4^2\omega_2^2\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_1\partial x_2\partial x_3}$$
$$+(-6\omega_4\omega_3^2+3\omega_4^2+6\omega_4\omega_3-6\omega_4^2\omega_3+3\omega_3^2+2\omega_4^2\omega_3^2)\frac{v_3v_2\delta_l^3\rho}{3\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2\partial x_3}+$$
$$(-6\omega_4^2\omega_2+3\omega_4^2+3\omega_2^2+2\omega_4^2\omega_2^2-6\omega_4\omega_2^2+6\omega_4\omega_2)\frac{v_3v_1\delta_l^3\rho}{3\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_2}{\partial x_1\partial x_2\partial x_3}+$$
$$(-6\omega_2^2\omega_3+2\omega_2^2\omega_3^2+3\omega_2^2-6\omega_2\omega_3^2+6\omega_2\omega_3+3\omega_3^2)\frac{v_2v_1\delta_l^3\rho}{3\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_2\partial x_3}+C_8\frac{v_3\delta_l^3}{2\omega_4^2\omega_6\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_2^2\partial x_3}+$$
$$(-6\omega_4\omega_3^2+6\omega_4^2-6\omega_4^2\omega_3+6\omega_3^2+\omega_4^2\omega_3^2)\frac{v_3v_2\delta_l^3\rho}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^2\partial x_3}+(-3cs^2\omega_6\omega_3^2+v_2^2\omega_6\omega_3^2-6v_2^2\omega_6\omega_3+18cs^2\omega_6\omega_3+$$
$$6cs^2\omega_3^2+6v_2^2\omega_3^2-12cs^2\omega_3-12v_2^2\omega_3+12v_2^2\omega_6-12cs^2\omega_6)\frac{\delta_l^3\rho}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2^2\partial x_3}+(12-6\omega_7-6\omega_4+\omega_7\omega_4)\frac{v_3\delta_l^2\rho}{6\omega_7\omega_4}\frac{\partial^3 v_3}{\partial t\partial x_3^2}$$
$$+C_9\frac{v_1\delta_l^3}{2\omega_7\omega_4^2\omega_2^2\delta_t}\frac{\partial^3\rho}{\partial x_1\partial x_3^2}+$$
$$(6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2-6\omega_7\omega_4v_3^2-12\omega_4v_3^2+6\omega_4^2v_3^2+12\omega_7v_3^2+\omega_7\omega_4^2v_3^2+18\omega_7\omega_4cs^2-12\omega_4cs^2)\frac{\delta_l^3\rho}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_3^2}$$
$$+(-6\omega_4^2\omega_2+6\omega_4^2+6\omega_2^2+\omega_4^2\omega_2^2-6\omega_4\omega_2^2)\frac{v_3v_1\delta_l^3\rho}{6\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_3^2}+C_{10}\frac{v_2\delta_l^3}{2\omega_7\omega_4^2\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_2\partial x_3^2}+$$
$$(6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2-12\omega_7cs^2-6\omega_7\omega_4v_3^2-12\omega_4v_3^2+6\omega_4^2v_3^2+12\omega_7v_3^2+\omega_7\omega_4^2v_3^2+18\omega_7\omega_4cs^2-12\omega_4cs^2)\frac{\delta_l^3\rho}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_2}{\partial x_2\partial x_3^2}$$
$$+(-6\omega_4\omega_3^2+6\omega_4^2-6\omega_4^2\omega_3+6\omega_3^2+\omega_4^2\omega_3^2)\frac{v_3v_2\delta_l^3\rho}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2\partial x_3^2}+C_{11}\frac{v_3\delta_l^3}{6\omega_7\omega_4^2\delta_t}\frac{\partial^3\rho}{\partial x_3^3}+C_{12}\frac{\delta_l^3\rho}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_3}{\partial x_3^3}+$$
$$(-2-\omega_2^2+3\omega_2)\frac{\delta_l\rho\delta_t^2}{2\omega_2^3}\frac{\partial^4 v_1}{\partial t^3\partial x_1}+(-\omega_5^2\omega_2^2+2\omega_2^3-\omega_5^2\omega_2-4\omega_2^2+2\omega_5^2-4\omega_5\omega_2+8\omega_5\omega_2^2-2\omega_5\omega_2^3)\frac{v_1\delta_l^2\rho\delta_t}{2\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1^2}+$$
$$C_{13}\frac{\delta_l^3\rho}{12\omega_5^2\omega_2^2}\frac{\partial^4 v_1}{\partial t\partial x_1^3}+C_{14}\frac{\delta_l^4}{24\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^4}+C_{15}\frac{v_1\delta_l^4\rho}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^4}+(-2+3\omega_3-\omega_3^2)\frac{\delta_l\rho\delta_t^2}{2\omega_3^3}\frac{\partial^4 v_2}{\partial t^3\partial x_2}+$$
$$(-24\omega_2^2\omega_3+13\omega_2^2\omega_3^2+12\omega_2^2-\omega_2^2\omega_3^3+7\omega_2\omega_3^3-24\omega_2\omega_3^2+12\omega_2\omega_3+12\omega_3^2-6\omega_3^3)\frac{v_2\delta_l^2\rho\delta_t}{12\omega_2^2\omega_3^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_2}+$$
$$(-\omega_2^3\omega_3^2-24\omega_2^2\omega_3-6\omega_2^3+13\omega_2^2\omega_3^2+12\omega_2^2+7\omega_2^3\omega_3-24\omega_2\omega_3^2+12\omega_2\omega_3+12\omega_3^2)\frac{v_1\delta_l^2\rho\delta_t}{12\omega_3^2\omega_2^3}\frac{\partial^4 v_2}{\partial t^2\partial x_1\partial x_2}+$$
$$C_{16}\frac{v_2v_1\delta_l^3\rho}{6\omega_5\omega_2^3\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_2}+C_{17}\frac{\delta_l^3\rho}{12\omega_5^2\omega_2^2\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_1^2\partial x_2}+C_{18}\frac{v_2v_1\delta_l^4}{6\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^3\partial x_2}+C_{19}\frac{v_2\delta_l^4\rho}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^3\partial x_2}+$$
$$C_{20}\frac{v_1\delta_l^4\rho}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^3\partial x_2}+(-\omega_6^2\omega_3-\omega_6^2\omega_3^2-2\omega_6\omega_3^3+8\omega_6\omega_3^2-4\omega_3^2-4\omega_6\omega_3+2\omega_6^2+2\omega_3^3)\frac{v_2\delta_l^2\rho\delta_t}{2\omega_6^2\omega_3^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2^2}+$$
$$C_{21}\frac{\delta_l^3\rho}{12\omega_2\omega_6^2\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2^2}+C_{22}\frac{v_2v_1\delta_l^3\rho}{6\omega_2^3\omega_6\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2^2}+C_{23}\frac{\delta_l^4}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2}+C_{24}\frac{v_1\delta_l^4\rho}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2^2}+$$
$$C_{25}\frac{v_2\delta_l^4\rho}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2^2}+C_{26}\frac{\delta_l^3\rho}{12\omega_6^2\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_2^3}+C_{27}\frac{v_2v_1\delta_l^4}{6\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2^3}+C_{28}\frac{v_2\delta_l^4\rho}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2^3}+C_{29}\frac{v_1\delta_l^4\rho}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2^3}$$
$$+C_{30}\frac{\delta_l^4}{24\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^4}+C_{31}\frac{v_2\delta_l^4\rho}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^4}+(-2+3\omega_4-\omega_4^2)\frac{\delta_l\rho\delta_t^2}{2\omega_4^3}\frac{\partial^4 v_3}{\partial t^3\partial x_3}+$$
$$(-24\omega_4^2\omega_2-6\omega_4^3-\omega_4^3\omega_2^2+12\omega_4^2+7\omega_4^3\omega_2+12\omega_2^2+13\omega_4^2\omega_2^2-24\omega_4\omega_2^2+12\omega_4\omega_2)\frac{v_3\delta_l^2\rho\delta_t}{12\omega_4^3\omega_2^2}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_3}+$$
$$(-24\omega_4^2\omega_2+12\omega_4^2-6\omega_2^3-\omega_4^2\omega_2^3+12\omega_2^2+13\omega_4^2\omega_2^2-24\omega_4\omega_2^2+7\omega_4\omega_2^3+12\omega_4\omega_2)\frac{v_1\delta_l^2\rho\delta_t}{12\omega_4^2\omega_2^3}\frac{\partial^4 v_3}{\partial t^2\partial x_1\partial x_3}+$$
$$C_{32}\frac{v_3v_1\delta_l^3\rho}{6\omega_4^3\omega_5\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_3}+C_{33}\frac{\delta_l^3\rho}{12\omega_4\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1^2\partial x_3}+C_{34}\frac{v_3v_1\delta_l^4}{6\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^3\partial x_3}+C_{35}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^3\partial x_3}+$$
$$C_{36}\frac{v_1\delta_l^4\rho}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^3\partial x_3}+$$
$$(-6\omega_4^3-24\omega_4\omega_3^2+12\omega_4^2+12\omega_4\omega_3-\omega_4^3\omega_3^2-24\omega_4^2\omega_3+12\omega_3^2+13\omega_4^2\omega_3^2+7\omega_4^3\omega_3)\frac{v_3\delta_l^2\rho\delta_t}{12\omega_4^3\omega_3^2}\frac{\partial^4 v_2}{\partial t^2\partial x_2\partial x_3}+$$
$$(7\omega_4\omega_3^3-24\omega_4\omega_3^2+12\omega_4^2+12\omega_4\omega_3-24\omega_4^2\omega_3+12\omega_3^2+13\omega_4^2\omega_3^2-6\omega_3^3-\omega_4^2\omega_3^3)\frac{v_2\delta_l^2\rho\delta_t}{12\omega_4^2\omega_3^3}\frac{\partial^4 v_3}{\partial t^2\partial x_2\partial x_3}+$$
$$C_{37}\frac{v_3v_2\delta_l^3\rho}{6\omega_4^3\omega_2\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2\partial x_3}+C_{38}\frac{v_3v_1\delta_l^3\rho}{6\omega_4^3\omega_2^3\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2\partial x_3}+C_{39}\frac{v_2v_1\delta_l^3\rho}{6\omega_4\omega_2^3\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_2\partial x_3}+C_{40}\frac{v_3v_2\delta_l^4}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_2\partial x_3}+$$
$$C_{41}\frac{v_3v_2v_1\delta_l^4\rho}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2\partial x_3}+C_{42}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2\partial x_3}+C_{43}\frac{v_2\delta_l^4\rho}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^2\partial x_2\partial x_3}+C_{44}\frac{v_3v_2\delta_l^3\rho}{6\omega_4^3\omega_6\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_2^2\partial x_3}+$$
$$C_{45}\frac{\delta_l^3\rho}{12\omega_4\omega_6^2\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_2^2\partial x_3}+C_{46}\frac{v_3v_1\delta_l^4}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2^2\partial x_3}+C_{47}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2^2\partial x_3}+C_{48}\frac{v_3v_2v_1\delta_l^4\rho}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2^2\partial x_3}+$$
$$C_{49}\frac{v_1\delta_l^4\rho}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_2^2\partial x_3}+C_{50}\frac{v_3v_2\delta_l^4}{6\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^3\partial x_3}+C_{51}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^3\partial x_3}+C_{52}\frac{v_2\delta_l^4\rho}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2^3\partial x_3}+$$
$$(8\omega_7\omega_4^2+2\omega_4^3-2\omega_7\omega_4^3-4\omega_4^2+2\omega_7^2-4\omega_7\omega_4-\omega_7^2\omega_4-\omega_7^2\omega_4^2)\frac{v_3\delta_l^2\rho\delta_t}{2\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial t^2\partial x_3^2}+C_{53}\frac{\delta_l^3\rho}{12\omega_7^2\omega_4^3\omega_2}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_3^2}+$$

$$C_{54}\frac{v_3v_1\delta_l^3\rho}{6\omega_7\omega_4^3\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_3^2}+C_{55}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_3^2}+C_{56}\frac{v_1\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_3^2}+C_{57}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^2\partial x_3^2}+$$
$$C_{58}\frac{\delta_l^3\rho}{12\omega_7^2\omega_4^3\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_2\partial x_3^2}+C_{59}\frac{v_3v_2\delta_l^3\rho}{6\omega_7\omega_4^3\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_2\partial x_3^2}+C_{60}\frac{v_2v_1\delta_l^4}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2\partial x_3^2}+C_{61}\frac{v_2\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2\partial x_3^2}+$$
$$C_{62}\frac{v_1\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2\partial x_3^2}+C_{63}\frac{v_3v_2v_1\delta_l^4\rho}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_2\partial x_3^2}+C_{64}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^2\partial x_3^2}+C_{65}\frac{v_2\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^2\partial x_3^2}+$$
$$C_{66}\frac{v_3\delta_l^4\rho}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2^2\partial x_3^2}+C_{67}\frac{\delta_l^3\rho}{12\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial t\partial x_3^3}+C_{68}\frac{v_3v_1\delta_l^4}{6\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_3^3}+C_{69}\frac{v_3\delta_l^4\rho}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_3^3}+C_{70}\frac{v_1\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_3^3}$$
$$+C_{71}\frac{v_3v_2\delta_l^4}{6\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2\partial x_3^3}+C_{72}\frac{v_3\delta_l^4\rho}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_2}{\partial x_2\partial x_3^3}+C_{73}\frac{v_2\delta_l^4\rho}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2\partial x_3^3}+C_{74}\frac{\delta_l^4}{24\omega_7^2\omega_4^3\delta_t}\frac{\partial^4\rho}{\partial x_3^4}+C_{75}\frac{v_3\delta_l^4\rho}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_3}{\partial x_3^4}$$
$$=0,$$

where:

$$C_1=-6\omega_2v_1^2+3cs^2\omega_2^2+3\omega_5\omega_2v_1^2+15cs^2\omega_5\omega_2-3cs^2\omega_5\omega_2^2-6cs^2\omega_2-3\omega_2^2+6\omega_2-12cs^2\omega_5-3\omega_5\omega_2+\omega_5\omega_2^2-\omega_5\omega_2^2v_1^2+3\omega_2^2v_1^2$$

$$C_2=-12\omega_2v_1^2+6cs^2\omega_2^2+18\omega_5\omega_2v_1^2+18cs^2\omega_5\omega_2-3cs^2\omega_5\omega_2^2-12cs^2\omega_2-6\omega_2^2+12\omega_2-12cs^2\omega_5-6\omega_5\omega_2+2\omega_5\omega_2^2-5\omega_5\omega_2^2v_1^2-12\omega_5v_1^2+6\omega_2^2v_1^2$$

$$C_3=cs^2\omega_5\omega_2^2\omega_3-3\omega_5\omega_2^2v_1^2\omega_3+\omega_2^2v_1^2\omega_3^2-2cs^2\omega_2\omega_3^2+4\omega_5v_1^2\omega_3^2+\omega_5\omega_2^2v_1^2\omega_3^2-cs^2\omega_5\omega_2^2\omega_3^2+4cs^2\omega_5\omega_2\omega_3^2-4\omega_5\omega_2v_1^2\omega_3^2+2\omega_5\omega_2^2v_1^2+cs^2\omega_2^2\omega_3^2-2\omega_2v_1^2\omega_3^2+2\omega_5\omega_2v_1^2\omega_3-2cs^2\omega_5\omega_3^2-2cs^2\omega_5\omega_2\omega_3$$

$$C_4=2v_2^2\omega_6\omega_3^2+cs^2\omega_2\omega_6\omega_3^2-3v_2^2\omega_2\omega_6\omega_3^2+2v_2^2\omega_2\omega_6\omega_3-2cs^2\omega_2\omega_6\omega_3-2cs^2\omega_2^2\omega_6+4v_2^2\omega_2^2\omega_6-4v_2^2\omega_2^2\omega_6\omega_3+4cs^2\omega_2^2\omega_6\omega_3-2v_2^2\omega_2^2\omega_3-2cs^2\omega_2^2\omega_3+cs^2\omega_2^2\omega_3^2+v_2^2\omega_2^2\omega_3^2-cs^2\omega_2^2\omega_6\omega_3^2+v_2^2\omega_2^2\omega_6\omega_3^2$$

$$C_5=-3cs^2\omega_6\omega_3^2-v_2^2\omega_6\omega_3^2+3v_2^2\omega_6\omega_3+15cs^2\omega_6\omega_3+\omega_6\omega_3^2+3cs^2\omega_3^2+3v_2^2\omega_3^2-6cs^2\omega_3-6v_2^2\omega_3+6\omega_3-3\omega_3^2-3\omega_6\omega_3-12cs^2\omega_6$$

$$C_6=-3cs^2\omega_6\omega_3^2-5v_2^2\omega_6\omega_3^2+18v_2^2\omega_6\omega_3+18cs^2\omega_6\omega_3+2\omega_6\omega_3^2+6cs^2\omega_3^2+6v_2^2\omega_3^2-12cs^2\omega_3-12v_2^2\omega_3+12\omega_3-6\omega_3^2-6\omega_6\omega_3-12v_2^2\omega_6-12cs^2\omega_6$$

$$C_7=-2\omega_4^2cs^2\omega_2-2\omega_4cs^2\omega_5\omega_2+2\omega_4\omega_5\omega_2v_1^2+\omega_4^2\omega_5\omega_2^2v_1^2-2\omega_4^2\omega_2v_1^2+\omega_4cs^2\omega_5\omega_2^2+\omega_4^2cs^2\omega_2^2+4\omega_4^2\omega_5v_1^2+\omega_4^2\omega_2^2v_1^2-4\omega_4^2\omega_5\omega_2v_1^2+4\omega_4^2cs^2\omega_5\omega_2-2\omega_4^2cs^2\omega_5+2\omega_5\omega_2^2v_1^2-3\omega_4\omega_5\omega_2^2v_1^2-\omega_4^2cs^2\omega_5\omega_2^2$$

$$C_8=\omega_4cs^2\omega_6\omega_3^2-3\omega_4v_2^2\omega_6\omega_3^2+2v_2^2\omega_6\omega_3^2+2\omega_4v_2^2\omega_6\omega_3-2\omega_4cs^2\omega_6\omega_3-2\omega_4^2v_2^2\omega_3-2\omega_4^2cs^2\omega_3-2\omega_4^2cs^2\omega_6+4\omega_4^2v_2^2\omega_6+\omega_4^2v_2^2\omega_6\omega_3^2-\omega_4^2cs^2\omega_6\omega_3^2+4\omega_4^2cs^2\omega_6\omega_3-4\omega_4^2v_2^2\omega_6\omega_3+\omega_4^2v_2^2\omega_3^2+\omega_4^2cs^2\omega_3^2$$

$$C_9=4\omega_7v_3^2\omega_2^2-\omega_7\omega_4^2cs^2\omega_2^2+\omega_7\omega_4^2v_3^2\omega_2^2-2\omega_7cs^2\omega_2^2-3\omega_7\omega_4^2v_3^2\omega_2+\omega_4^2cs^2\omega_2^2+\omega_4^2v_3^2\omega_2^2+\omega_7\omega_4^2cs^2\omega_2+2\omega_7\omega_4v_3^2\omega_2-2\omega_4cs^2\omega_2^2-2\omega_4v_3^2\omega_2^2+2\omega_7\omega_4^2v_3^2-2\omega_7\omega_4cs^2\omega_2+4\omega_7\omega_4cs^2\omega_2^2-4\omega_7\omega_4v_3^2\omega_2^2$$

$$C_{10}=-2\omega_4v_3^2\omega_3^2-2\omega_7\omega_4cs^2\omega_3+2\omega_7\omega_4v_3^2\omega_3-2\omega_4cs^2\omega_3^2-4\omega_7\omega_4v_3^2\omega_3^2+4\omega_7\omega_4cs^2\omega_3^2+\omega_7\omega_4^2v_3^2\omega_3^2-2\omega_7cs^2\omega_3^2+4\omega_7v_3^2\omega_3^2-\omega_7\omega_4^2cs^2\omega_3^2+2\omega_7\omega_4^2v_3^2+\omega_4^2v_3^2\omega_3^2+\omega_7\omega_4^2cs^2\omega_3-3\omega_7\omega_4^2v_3^2\omega_3+\omega_4^2cs^2\omega_3^2$$

$$C_{11}=\omega_7\omega_4^2+3\omega_4^2cs^2+6\omega_4-3\omega_7\omega_4^2cs^2-3\omega_4^2-12\omega_7cs^2+3\omega_7\omega_4v_3^2-3\omega_7\omega_4-6\omega_4v_3^2+3\omega_4^2v_3^2-\omega_7\omega_4^2v_3^2+15\omega_7\omega_4cs^2-6\omega_4cs^2$$

$$C_{12}=2\omega_7\omega_4^2+6\omega_4^2cs^2+12\omega_4-3\omega_7\omega_4^2cs^2-6\omega_4^2-12\omega_7cs^2+18\omega_7\omega_4v_3^2-6\omega_7\omega_4-12\omega_4v_3^2+6\omega_4^2v_3^2-12\omega_7v_3^2-5\omega_7\omega_4^2v_3^2+18\omega_7\omega_4cs^2-12\omega_4cs^2$$

$$C_{13}=\omega_5^2\omega_2^3+12cs^2\omega_2^2+27\omega_5^2\omega_2^2v_1^2-11\omega_5^2\omega_2^2+48\omega_5\omega_2v_1^2+12\omega_5^2v_1^2-6cs^2\omega_2^3+24cs^2\omega_5\omega_2-3\omega_5^2\omega_2^3v_1^2-36cs^2\omega_5\omega_2^2+6\omega_2^3+12\omega_5^2\omega_2+9cs^2\omega_5\omega_2^3-12\omega_2^2-2cs^2\omega_5^2\omega_2^3+15\omega_5\omega_2^3v_1^2+25cs^2\omega_5^2\omega_2^2-6\omega_2^3v_1^2-24\omega_5\omega_2+36\omega_5\omega_2^2-60\omega_5\omega_2^2v_1^2-48cs^2\omega_5^2\omega_2-9\omega_5\omega_2^3+12\omega_2^2v_1^2-42\omega_5^2\omega_2v_1^2+24cs^2\omega_5^2$$

$$C_{14}=72\omega_5\omega_2^2v_1^4-24cs^4\omega_5\omega_2^2-72cs^2\omega_5^2\omega_2^2v_1^2+24\omega_5^2\omega_2^2v_1^2+6cs^4\omega_5\omega_2^3+24\omega_5^2\omega_2v_1^4+12cs^2\omega_2^3v_1^2+48\omega_5\omega_2v_1^2-24cs^2\omega_5\omega_2v_1^2-24\omega_2^2v_1^4-24cs^2\omega_5\omega_2-3\omega_5^2\omega_2^3v_1^2+6cs^2\omega_5^2\omega_2^3v_1^2+24cs^2\omega_5\omega_2^2-18\omega_5\omega_2^3v_1^4+24cs^4\omega_5^2-6cs^2\omega_5\omega_2^3+12\omega_2^3v_1^4-24cs^2\omega_2^2v_1^2+24cs^4\omega_5\omega_2-12cs^2\omega_5\omega_2^3v_1^2+cs^2\omega_5^2\omega_2^3+18\omega_5\omega_2^3v_1^2+3\omega_5^2\omega_2^3v_1^4-48cs^4\omega_5^2\omega_2-8cs^2\omega_5^2\omega_2^2-12\omega_2^3v_1^2-96cs^2\omega_5^2v_1^2-3cs^4\omega_5^2\omega_2^2-24\omega_5^2\omega_2^2v_1^4-72\omega_5\omega_2^2v_1^2+12cs^2\omega_5^2\omega_2+48cs^2\omega_5\omega_2^2v_1^2-48\omega_5\omega_2v_1^4+24\omega_2^2v_1^2+24cs^4\omega_5^2\omega_2^2+156cs^2\omega_5^2\omega_2v_1^2-24\omega_5^2\omega_2v_1^2$$

$$C_{15}=-\omega_5^2\omega_2^3-12cs^2\omega_2^2-16\omega_5^2\omega_2^2v_1^2+8\omega_5^2\omega_2^2-12\omega_5\omega_2v_1^2-12\omega_5^2v_1^2+6cs^2\omega_2^3-12cs^2\omega_5\omega_2+2\omega_5^2\omega_2^3v_1^2+24cs^2\omega_5\omega_2^2-6\omega_2^3-6\omega_5^2\omega_2-6cs^2\omega_5\omega_2^3+12\omega_2^2+cs^2\omega_5^2\omega_2^3-6\omega_5\omega_2^3v_1^2-20cs^2\omega_5^2\omega_2^2+6\omega_2^3v_1^2+12\omega_5\omega_2-24\omega_5\omega_2^2+24\omega_5\omega_2^2v_1^2+42cs^2\omega_5^2\omega_2+6\omega_5\omega_2^3-12\omega_2^2v_1^2+24\omega_5^2\omega_2v_1^2-24cs^2\omega_5^2$$

$$C_{16}=-6\omega_2^3\omega_3^2-6\omega_5\omega_2^2\omega_3+\omega_5\omega_2^3\omega_3^3+3\omega_2^3\omega_3^3-7\omega_5\omega_2^3\omega_3^2-12\omega_5\omega_3^3+12\omega_5\omega_2^3\omega_3-10\omega_5\omega_2^2\omega_3^3+12\omega_2^2\omega_3^3+12\omega_5\omega_2^2\omega_3^2-6\omega_2^2\omega_3^3-12\omega_5\omega_2\omega_3^2+24\omega_5\omega_2\omega_3^3-6\omega_5\omega_2^3$$

$$C_{17}=\omega_5^2\omega_2^3v_1^2\omega_3-30cs^2\omega_5\omega_2^2\omega_3+6\omega_5^2\omega_2^2v_1^2-30\omega_5\omega_2^2v_1^2\omega_3-30cs^2\omega_5^2\omega_2\omega_3-\omega_5^2\omega_2^3v_1^2+9cs^2\omega_5\omega_2^3\omega_3+12cs^2\omega_5\omega_2^2+12\omega_2^2v_1^2\omega_3-6cs^2\omega_5\omega_2^3+36\omega_5^2\omega_2v_1^2\omega_3+12cs^2\omega_5^2\omega_2\omega_3+3cs^2\omega_5^2\omega_2^3-6\omega_5\omega_2^3v_1^2-2cs^2\omega_5^2\omega_2^3\omega_3+9\omega_5\omega_2^3v_1^2\omega_3-18cs^2\omega_5^2\omega_2^2+12cs^2\omega_2^2\omega_3-10\omega_5^2\omega_2^2v_1^2\omega_3+22cs^2\omega_5^2\omega_2^2\omega_3+12\omega_5\omega_2^2v_1^2+12cs^2\omega_5^2\omega_2+12\omega_5\omega_2v_1^2\omega_3-6\omega_2^3v_1^2\omega_3-6cs^2\omega_2^3\omega_3-24\omega_5^2v_1^2\omega_3+12cs^2\omega_5\omega_2\omega_3-12\omega_5^2\omega_2v_1^2$$

$$C_{18}=-12\omega_2^2v_1^2\omega_3^3+12\omega_5^2\omega_2v_1^2\omega_3^2-12\omega_5^2\omega_2^2v_1^2\omega_3+6\omega_5\omega_2^3\omega_3^3-12cs^2\omega_5\omega_2^2\omega_3^3-36cs^2\omega_5^2\omega_3^3-3\omega_2^3\omega_3^3-30\omega_5^2\omega_2v_1^2\omega_3^3+6cs^2\omega_5\omega_2^3\omega_3^2-3\omega_5\omega_2^3\omega_3^2+42cs^2\omega_5\omega_2^2\omega_3^3-24cs^2\omega_5^2\omega_2\omega_3^2+6\omega_5^2\omega_2^2v_1^2-21\omega_5\omega_2^2\omega_3^3-12\omega_5\omega_2^2v_1^2\omega_3^2+6\omega_5\omega_2^2\omega_3^2-6\omega_5^2\omega_2\omega_3^3+78cs^2\omega_5^2\omega_2\omega_3^3-12cs^2\omega_5\omega_2^2\omega_3^2+6\omega_2^2\omega_3^3+6\omega_5^2\omega_2^3v_1^2\omega_3^2+42\omega_5\omega_2^2v_1^2\omega_3^3+7\omega_5^2\omega_2^2\omega_3^3+6cs^2\omega_5^2\omega_2^3\omega_3-48cs^2\omega_5^2\omega_2^2\omega_3^3+42cs^2\omega_5^2\omega_2^2\omega_3^2-24cs^2\omega_5\omega_2\omega_3^3+12\omega_5\omega_2\omega_3^3+24\omega_5^2v_1^2\omega_3^3+$$

$$6cs^2\omega_2^3\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^3 - 24\omega_5\omega_2v_1^2\omega_3^3 + 6\omega_2^3v_1^2\omega_3^3 + 6\omega_5^2\omega_2^2v_1^2\omega_3 - 12\omega_5\omega_2^3v_1^2\omega_3^3 - 12\omega_5^2\omega_2^2v_1^2\omega_3^2 - 12cs^2\omega_5^2\omega_2^2\omega_3 + 6cs^2\omega_5^2\omega_2^2\omega_3^3\omega_3^3 - \omega_5^2\omega_3^3\omega_3^3 + 6\omega_5\omega_2^3v_1^2\omega_3^2 + 6\omega_5^2\omega_2^2v_1^2\omega_3^3 + \omega_5^2\omega_3^2\omega_3^2 - 12cs^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_3^2\omega_3^2$$

$$C_{19} = -12\omega_2^2v_1^2\omega_3^3 - 18\omega_5^2\omega_2^3v_1^2\omega_3 + 3\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 30\omega_5^2\omega_2v_1^2\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 - 6\omega_5\omega_2^3\omega_3^2 + 36cs^2\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 12\omega_5^2\omega_2^3v_1^2 - 6\omega_5\omega_2^2\omega_3^3 + 3\omega_5^2\omega_2^3v_1^2\omega_3^3 - 24\omega_5\omega_2^2v_1^2\omega_3^2 + 12\omega_5\omega_2^2\omega_3^2 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^2 + 36\omega_5\omega_2^2v_1^2\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5\omega_2\omega_3^3 + 24\omega_5^2v_1^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^2 - 12\omega_5\omega_2v_1^2\omega_3^3 + 6\omega_2^3v_1^2\omega_3^3 - 12\omega_5\omega_2^3v_1^2\omega_3^3 + 12\omega_5^2\omega_2^2v_1^2\omega_3^2 - 12cs^2\omega_5^2\omega_2^2\omega_3 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 + 12\omega_5\omega_2^3v_1^2\omega_3^2 + 2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2$$

$$C_{20} = -\omega_5^2\omega_2^3 - 12cs^2\omega_2^2 - 8\omega_5^2\omega_2^2v_1^2 + 11\omega_5^2\omega_2^2 - 36\omega_5\omega_2v_1^2 + 12\omega_5^2v_1^2 + 6cs^2\omega_2^3 - 36cs^2\omega_5\omega_2 + \omega_5^2\omega_2^3v_1^2 + 48cs^2\omega_5\omega_2^2 - 6\omega_2^3 - 12\omega_5^2\omega_2 - 12cs^2\omega_5\omega_2^3 + 12\omega_2^2 + 4cs^2\omega_5^2\omega_2^3 - 12\omega_5\omega_2^3v_1^2 - 44cs^2\omega_5^2\omega_2^2 + 6\omega_2^3v_1^2 + 24\omega_5\omega_2 - 36\omega_5\omega_2^2 + 48\omega_5\omega_2^2v_1^2 + 90cs^2\omega_5^2\omega_2 + 9\omega_5\omega_2^3 - 12\omega_2^2v_1^2 - 48cs^2\omega_5^2$$

$$C_{21} = -6v_2^2\omega_6\omega_3^3 - 6cs^2\omega_6\omega_3^3 - 24v_2^2\omega_2\omega_6^2 + 12cs^2\omega_2\omega_6^2 - 6v_2^2\omega_2\omega_3^3 - 6cs^2\omega_2\omega_3^3 + 9cs^2\omega_2\omega_6\omega_3^3 + 9v_2^2\omega_2\omega_6\omega_3^3 + 12cs^2\omega_6\omega_3^2 + 12v_2^2\omega_6\omega_3^2 - 30cs^2\omega_2\omega_6\omega_3^2 - 30v_2^2\omega_2\omega_6\omega_3^2 + 12cs^2\omega_2\omega_3^2 + 12v_2^2\omega_2\omega_3^2 + 12v_2^2\omega_2\omega_6\omega_3 + 12cs^2\omega_2\omega_6\omega_3 - 30cs^2\omega_2\omega_6^2\omega_3 + 36v_2^2\omega_2\omega_6^2\omega_3 - 12v_2^2\omega_6^2\omega_3 + 12cs^2\omega_6^2\omega_3 - 18cs^2\omega_6^2\omega_3^2 + 6v_2^2\omega_6^2\omega_3^2 - 10v_2^2\omega_2\omega_6^2\omega_3^2 + 22cs^2\omega_2\omega_6^2\omega_3^2 - v_2^2\omega_6^2\omega_3^3 + 3cs^2\omega_6^2\omega_3^3 + v_2^2\omega_2\omega_6^2\omega_3^3 - 2cs^2\omega_2\omega_6^2\omega_3^3$$

$$C_{22} = -6\omega_2^3\omega_3^2 + 12\omega_2\omega_6\omega_3^3 + 3\omega_2^3\omega_3^3 + 24\omega_2^3\omega_6\omega_3 - 6\omega_2\omega_6\omega_3^2 - 10\omega_2^3\omega_6\omega_3^2 - 12\omega_2^3\omega_6 + 12\omega_2^2\omega_3^2 + \omega_2^3\omega_6\omega_3^3 - 6\omega_2^2\omega_3^3 - 12\omega_2^2\omega_6\omega_3 - 6\omega_6\omega_3^3 - 7\omega_2^2\omega_6\omega_3^3 + 12\omega_2^2\omega_6\omega_3^2$$

$$C_{23} = -4\omega_5v_2^2\omega_2^2v_1^2\omega_6^2\omega_3^3 + 12cs^2\omega_5^2\omega_2^2v_1^2\omega_6^2\omega_3^3 + 4cs^2\omega_5^2v_2^2\omega_2^2\omega_6\omega_3^3 + 10cs^2\omega_5^2v_2^2\omega_2\omega_6^2\omega_3^3 + 20\omega_5^2v_2^2\omega_2^3v_1^2\omega_6^2\omega_3^3 + 20\omega_5^2v_2^2\omega_2^2v_1^2\omega_6^2\omega_3 - 2cs^2\omega_5\omega_2^2v_1^2\omega_6^2\omega_3^3 + 10cs^2\omega_5^2\omega_2^3v_1^2\omega_6^2\omega_3 - 2cs^4\omega_5^2\omega_2\omega_6^2\omega_3^3 - 4cs^2\omega_5^2v_2^2\omega_6^2\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6\omega_3^3 - 4cs^2\omega_5^2v_2^2\omega_2\omega_6^2\omega_3^3 - 3\omega_5^2v_2^2\omega_2^3v_1^2\omega_6^2\omega_3^3 - 2cs^2\omega_5^2v_2^2\omega_2^2\omega_6\omega_3^3 + 4cs^2\omega_5^2v_2^2\omega_2^3\omega_6^2\omega_3 - 4cs^2\omega_5^2\omega_2^2v_1^2\omega_6^2\omega_3^3 + 10\omega_5v_2^2\omega_2^2v_1^2\omega_6^2\omega_3^3 - 4cs^2v_2^2\omega_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^2\omega_6\omega_3^3 + 4cs^2\omega_5\omega_2^2v_1^2\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3 - 2cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^3 - 4cs^2\omega_5\omega_2^2v_1^2\omega_6^2\omega_3^3 - 3cs^2\omega_5v_2^2\omega_2^3\omega_6^2\omega_3^3 - 3\omega_5v_2^2\omega_2^3v_1^2\omega_6^2\omega_3^3 + cs^2\omega_5^2\omega_2^3v_1^2\omega_6^2\omega_3^3 + 2cs^2\omega_5^2\omega_2^3v_1^2\omega_6^2\omega_3^3 + 4cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^2 + 20\omega_5^2v_2^2\omega_2^2v_1^2\omega_6^2\omega_3^3 - 4cs^2\omega_5^2\omega_2^3v_1^2\omega_6^2 - 2cs^4\omega_5\omega_2^2\omega_6^2\omega_3^3 - 4\omega_5^2v_2^2\omega_2^3v_1^2\omega_3^3 - 2cs^2\omega_5\omega_2^3v_1^2\omega_6^2\omega_3^3 - 4cs^2\omega_5^2v_2^2\omega_2^3\omega_6^2\omega_3^2 - cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^3 - 4cs^2\omega_5^2\omega_2^3v_1^2\omega_3^3 + 4cs^4\omega_5\omega_2^2\omega_6^2\omega_3^3 - 36\omega_5^2v_2^2\omega_2^2v_1^2\omega_6^2\omega_3^3 + 2cs^2\omega_5v_2^2\omega_2^3\omega_6^2\omega_3^3 - 8cs^2\omega_5^2\omega_2^3v_1^2\omega_6^2\omega_3^2 + 2\omega_5v_2^2\omega_2^3v_1^2\omega_6^2\omega_3^2 - 4cs^2\omega_5^2\omega_2^2v_1^2\omega_6^2\omega_3 + cs^2\omega_5\omega_2^3v_1^2\omega_6^2\omega_3^3 + cs^2\omega_5^2v_2^2\omega_2^3\omega_6^2\omega_3^3 - 38\omega_5^2v_2^2\omega_2^3v_1^2\omega_6^2\omega_3 + 20\omega_5^2v_2^2\omega_2^3v_1^2\omega_6^2 + 2\omega_5^2v_2^2\omega_2^3v_1^2\omega_3^3 - 4\omega_5^2v_2^2\omega_2^2v_1^2\omega_6\omega_3^3 + cs^4\omega_5^2\omega_2^3\omega_6\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3 + 10cs^2\omega_5^2\omega_2^3v_1^2\omega_6\omega_3^3 + cs^2\omega_5^2v_2^2\omega_2^3\omega_6\omega_3^3 - 4\omega_5^2v_2^2\omega_2^3v_1^2\omega_6\omega_3 + 2cs^2v_2^2\omega_2^3\omega_6^2\omega_3^3 - 8cs^2\omega_5^2v_2^2\omega_2^2\omega_6^2\omega_3 - 8cs^2\omega_5^2\omega_2^2v_1^2\omega_6^2\omega_3^2 + 20\omega_5^2v_2^2v_1^2\omega_6^2\omega_3^3 - 3cs^2\omega_5^2\omega_2^3v_1^2\omega_6\omega_3^3 + 2\omega_5^2v_2^2\omega_2^2v_1^2\omega_6\omega_3^3 - 2cs^4\omega_5^2\omega_2^3\omega_6\omega_3^2 + 2v_2^2\omega_2^3v_1^2\omega_6^2\omega_3^3 + 4cs^2\omega_5^2\omega_2v_1^2\omega_6^2\omega_3^3 - 4\omega_5v_2^2\omega_2v_1^2\omega_6^2\omega_3^3 - 2cs^2\omega_5^2v_2^2\omega_2^3\omega_6\omega_3^2 - 8cs^2\omega_5^2v_2^2\omega_2^2\omega_6^2\omega_3^3 - 4v_2^2\omega_2^2v_1^2\omega_6^2\omega_3^3 - 3\omega_5^2v_2^2\omega_2^3v_1^2\omega_6\omega_3^3 + 2cs^2\omega_5^2\omega_2^2v_1^2\omega_6\omega_3^3 - 2cs^4\omega_5\omega_2^3\omega_6^2\omega_3^3 - 38\omega_5^2v_2^2\omega_2v_1^2\omega_6^2\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^3 - 4cs^2\omega_5v_2^2\omega_2^2\omega_6^2\omega_3^3 - 4cs^2\omega_5^2\omega_2^2v_1^2\omega_6\omega_3^2 + 10\omega_5^2v_2^2\omega_2^3v_1^2\omega_6\omega_3^2 + 12cs^2\omega_5^2v_2^2\omega_2^2\omega_6^2\omega_3^2 + 10cs^2\omega_5v_2^2\omega_2^2\omega_6^2\omega_3^3 + cs^4\omega_5\omega_2^3\omega_6^2\omega_3^3 - 12cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 20\omega_5^2v_2^2\omega_2v_1^2\omega_6^2\omega_3^2 - 4cs^2\omega_5^2\omega_2^3v_1^2\omega_6\omega_3$$

$$C_{24} = -48v_2^2\omega_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_2^2\omega_6^2\omega_3^3 + 22v_2^2\omega_2^2\omega_6^2\omega_3^3 - 6cs^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12v_2^2\omega_2^3\omega_6\omega_3 + 24v_2^2\omega_2^3\omega_6\omega_3^2 + 24cs^2\omega_2^3\omega_6\omega_3^2 - 6v_2^2\omega_2^3\omega_6\omega_3^3 - 6cs^2\omega_2^3\omega_6\omega_3^3 + 24v_2^2\omega_2^2\omega_6^2\omega_3 + cs^2\omega_2^3\omega_6^2\omega_3^3 - 4v_2^2\omega_2^3\omega_6^2\omega_3^3 - 12v_2^2\omega_2^3\omega_3^3 - 12cs^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^2\omega_6^2 - 14cs^2\omega_2^3\omega_6^2\omega_3^2 + 48v_2^2\omega_2^3\omega_6^2 + 6cs^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_3^3 + 34v_2^2\omega_2^3\omega_6^2\omega_3^2 + 24v_2^2\omega_2\omega_6^2\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 78v_2^2\omega_2^3\omega_6^2\omega_3 + 24cs^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_6^2\omega_3^3 - 30v_2^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2\omega_6^2\omega_3^3$$

$$C_{25} = -12\omega_2^2v_1^2\omega_3^3 + 24\omega_5^2\omega_2v_1^2\omega_3^2 - 30\omega_5^2\omega_2^3v_1^2\omega_3 - 6cs^2\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 78\omega_5^2\omega_2v_1^2\omega_3^3 + 24cs^2\omega_5\omega_2^2\omega_3^3 + 12\omega_5^2\omega_2^3v_1^2 - 4\omega_5^2\omega_2^3v_1^2\omega_3^3 + 24cs^2\omega_5^2\omega_2\omega_3^3 + 22\omega_5^2\omega_2^3v_1^2\omega_3^3 + 24\omega_5\omega_2^2v_1^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 14cs^2\omega_5^2\omega_2^2\omega_3^3 + 12cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5\omega_2\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_5\omega_2v_1^2\omega_3^3 + 6\omega_2^3v_1^2\omega_3^3 + 24\omega_5^2\omega_2^2v_1^2\omega_3 - 6\omega_5\omega_2^3v_1^2\omega_3^3 - 48\omega_5^2\omega_2^2v_1^2\omega_3^2 - 12cs^2\omega_5^2\omega_2^2\omega_3 + cs^2\omega_5^2\omega_2^3\omega_3^3 + 34\omega_5^2\omega_2^2v_1^2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3 - 6cs^2\omega_5^2\omega_2^3\omega_3^2$$

$$C_{26} = 15v_2^2\omega_6\omega_3^3 + 9cs^2\omega_6\omega_3^3 - 36cs^2\omega_6\omega_3^2 - 60v_2^2\omega_6\omega_3^2 + 12\omega_6^2\omega_3 - 11\omega_6^2\omega_3^3 + 48v_2^2\omega_6\omega_3 + 24cs^2\omega_6\omega_3 + \omega_6^2\omega_3^3 - 9\omega_6\omega_3^3 - 6v_2^2\omega_3^3 - 6cs^2\omega_3^3 + 12v_2^2\omega_6^2 + 24cs^2\omega_6^2 + 36\omega_6\omega_3^2 + 12cs^2\omega_3^2 + 12v_2^2\omega_3^2 - 42v_2^2\omega_6^2\omega_3 - 48cs^2\omega_6^2\omega_3 + 25cs^2\omega_6^2\omega_3^2 + 27v_2^2\omega_6^2\omega_3^2 - 12\omega_3^2 - 24\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 - 2cs^2\omega_6^2\omega_3^3 + 6\omega_3^3$$

$$C_{27} = 6\omega_2^3\omega_3^2 - 3\omega_2^2\omega_6^2\omega_3^2 - 12v_2^2\omega_2^2\omega_6^2\omega_3^2 + 42cs^2\omega_2^2\omega_6^2\omega_3^2 - 3\omega_2^3\omega_3^3 + 12\omega_2^3\omega_6\omega_3 + 6v_2^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 24cs^2\omega_2^3\omega_6\omega_3 - 24v_2^2\omega_2^3\omega_6\omega_3 + \omega_2^2\omega_6^2\omega_3^3 - 21\omega_2^3\omega_6\omega_3^2 + 42v_2^2\omega_2^3\omega_6\omega_3^2 + 42cs^2\omega_2^3\omega_6\omega_3^2 - 12v_2^2\omega_2^3\omega_6\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3^3 - 24cs^2\omega_2^2\omega_6^2\omega_3 + 6\omega_2^3\omega_6\omega_3^3 + 12v_2^2\omega_2^2\omega_6^2\omega_3 + 6cs^2\omega_2^3\omega_6^2\omega_3^3 - 12v_2^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 - \omega_2^3\omega_6^2\omega_3^3 + 7\omega_2^3\omega_6^2\omega_3^2 - 36cs^2\omega_2^3\omega_6^2 - 48cs^2\omega_2^3\omega_6^2\omega_3^2 + 24v_2^2\omega_2^3\omega_6^2 + 6cs^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_6^2\omega_3^2 + 6cs^2\omega_2^2\omega_6\omega_3^3 - 6\omega_2^3\omega_6^2\omega_3 + 6v_2^2\omega_2^2\omega_6\omega_3^3 + 6v_2^2\omega_2\omega_6^2\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 30v_2^2\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^3 + 78cs^2\omega_2^3\omega_6^2\omega_3 + 6v_2^2\omega_6^2\omega_3^3 + 6\omega_2^2\omega_6\omega_3^2 - 12v_2^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 12cs^2\omega_2^2\omega_6\omega_3^2 - 12v_2^2\omega_2^2\omega_6\omega_3^2$$

$$C_{28} = -12v_2^2\omega_6\omega_3^3 - 12cs^2\omega_6\omega_3^3 + 48cs^2\omega_6\omega_3^2 + 48v_2^2\omega_6\omega_3^2 - 12\omega_6^2\omega_3 + 11\omega_6^2\omega_3^2 - 36v_2^2\omega_6\omega_3 - 36cs^2\omega_6\omega_3 - \omega_6^2\omega_3^3 + 9\omega_6\omega_3^3 + 6v_2^2\omega_3^3 + 6cs^2\omega_3^3 + 12v_2^2\omega_6^2 - 48cs^2\omega_6^2 - 36\omega_6\omega_3^2 - 12cs^2\omega_3^2 - 12v_2^2\omega_3^2 + 90cs^2\omega_6^2\omega_3 - 44cs^2\omega_6^2\omega_3^2 - 8v_2^2\omega_6^2\omega_3^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 + 4cs^2\omega_6^2\omega_3^3 - 6\omega_3^3$$

$$C_{29} = -6\omega_2^2\omega_6^2\omega_3^3 + 12v_2^2\omega_2^2\omega_6^2\omega_3^3 + 48cs^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12v_2^2\omega_2^3\omega_6\omega_3 + 2\omega_2^2\omega_6^2\omega_3^3 - 6\omega_2^3\omega_6\omega_3^2 + 36v_2^2\omega_2^3\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 - 12v_2^2\omega_2^3\omega_6\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3^3 - 24cs^2\omega_2^2\omega_6^2\omega_3 + 3\omega_2^3\omega_6\omega_3^3 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 + 3v_2^2\omega_2^3\omega_6^2\omega_3^3 - 12v_2^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 - \omega_2^3\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6^2\omega_3^2 - 12cs^2\omega_2^3\omega_6^2 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 + 24v_2^2\omega_2^3\omega_6^2 + 6cs^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_3^3 + 12cs^2\omega_2^2\omega_6\omega_3^3 + 12v_2^2\omega_2^2\omega_6\omega_3^3 - 12cs^2\omega_2\omega_6^2\omega_3^3 - 30v_2^2\omega_2^3\omega_6^2\omega_3 - 6\omega_2^2\omega_6\omega_3^3 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_6^2\omega_3^3 + 12\omega_2^2\omega_6\omega_3^2 - 18v_2^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 24cs^2\omega_2^2\omega_6\omega_3^2 - 24v_2^2\omega_2^2\omega_6\omega_3^2$$

$$C_{30} = 18v_2^2\omega_6\omega_3^3 - 6cs^2\omega_6\omega_3^3 - 12cs^2v_2^2\omega_6\omega_3^3 - 24v_2^4\omega_3^2 - 96cs^2v_2^2\omega_6^2 + 24cs^4\omega_6\omega_3 + 12cs^2v_2^2\omega_3^3 - 48v_2^4\omega_6\omega_3 + 48cs^2v_2^2\omega_6\omega_3^2 + 24cs^2\omega_6\omega_3^2 - 72v_2^2\omega_6\omega_3^2 - 24cs^2v_2^2\omega_3^2 + 24cs^4\omega_6^2 + 12v_2^4\omega_3^2 + 6cs^4\omega_6\omega_3^3 - 18v_2^4\omega_6\omega_3^3 - 24cs^2v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3 - 24cs^2\omega_6\omega_3 + 72v_2^4\omega_6\omega_3^2 - 24cs^4\omega_6\omega_3^2 - 24v_2^4\omega_6^2\omega_3^2 + 24cs^4\omega_6^2\omega_3^2 - 12v_2^2\omega_3^3 - 3cs^4\omega_6^2\omega_3^3 + 3v_2^4\omega_6^2\omega_3^3 + 24v_2^2\omega_3^2 + 156cs^2v_2^2\omega_6^2\omega_3 - 24v_2^2\omega_6^2\omega_3 + 12cs^2\omega_6^2\omega_3 - 72cs^2v_2^2\omega_6^2\omega_3^2 - 8cs^2\omega_6^2\omega_3^2 + 24v_2^2\omega_6^2\omega_3^2 - 3v_2^2\omega_6^2\omega_3^3 + cs^2\omega_6^2\omega_3^3 + 6cs^2v_2^2\omega_6^2\omega_3^3 - 48cs^4\omega_6^2\omega_3 + 24v_2^4\omega_6^2\omega_3$$

$$C_{31} = -6v_2^2\omega_6\omega_3^3 - 6cs^2\omega_6\omega_3^3 + 24cs^2\omega_6\omega_3^2 + 24v_2^2\omega_6\omega_3^2 - 6\omega_6^2\omega_3 + 8\omega_6^2\omega_3^2 - 12v_2^2\omega_6\omega_3 - 12cs^2\omega_6\omega_3 - \omega_6^2\omega_3^3 + 6\omega_6\omega_3^3 + 6v_2^2\omega_3^3 + 6cs^2\omega_3^3 - 12v_2^2\omega_6^2 - 24cs^2\omega_6^2 - 24\omega_6\omega_3^2 - 12cs^2\omega_3^2 - 12v_2^2\omega_3^2 + 24v_2^2\omega_6^2\omega_3 + 42cs^2\omega_6^2\omega_3 - 20cs^2\omega_6^2\omega_3^2 - 16v_2^2\omega_6^2\omega_3^2 + 12\omega_3^2 + 12\omega_6\omega_3 + 2v_2^2\omega_6^2\omega_3^3 + cs^2\omega_6^2\omega_3^3 - 6\omega_3^3$$

$$C_{32} = 3\omega_4^3\omega_2^3 + \omega_4^3\omega_5\omega_2^3 - 6\omega_4^3\omega_2^2 - 10\omega_4^3\omega_5\omega_2^2 + 24\omega_4^3\omega_5\omega_2 - 6\omega_4\omega_5\omega_2^2 - 6\omega_4^2\omega_2^3 + 12\omega_4\omega_5\omega_2^3 + 12\omega_4^2\omega_2^2 + 12\omega_4^2\omega_5\omega_2^2 - 7\omega_4^2\omega_5\omega_2^3 - 12\omega_4^3\omega_5 - 6\omega_5\omega_2^3 - 12\omega_4^2\omega_5\omega_2$$

$$C_{33} = -10\omega_4\omega_5^2\omega_2^2v_1^2 + 6\omega_5^2\omega_2^2v_1^2 - 6\omega_4\omega_2^3v_1^2 + 12\omega_4cs^2\omega_5\omega_2 + 12\omega_4\omega_5\omega_2v_1^2 - 30\omega_4cs^2\omega_5\omega_2^2 - \omega_5^2\omega_2^3v_1^2 + 12cs^2\omega_5\omega_2^2 + \omega_4\omega_5^2\omega_2^3v_1^2 - 6cs^2\omega_5\omega_2^3 + 9\omega_4cs^2\omega_5\omega_2^3 + 12\omega_4\omega_2^2v_1^2 + 12\omega_4cs^2\omega_5^2 + 9\omega_4\omega_5\omega_2^3v_1^2 + 3cs^2\omega_5^2\omega_2^3 - 6\omega_5\omega_2^3v_1^2 - 2\omega_4cs^2\omega_5^2\omega_2^3 + 12\omega_4cs^2\omega_5^2\omega_2^2 + 22\omega_4cs^2\omega_5^2\omega_2^2 - 18cs^2\omega_5^2\omega_2^2 - 24\omega_4\omega_5^2v_1^2 - 6\omega_4cs^2\omega_2^2 - 30\omega_4cs^2\omega_5^2\omega_2 + 12\omega_5\omega_2^2v_1^2 + 12cs^2\omega_5^2\omega_2 - 30\omega_4\omega_5\omega_2^2v_1^2 + 36\omega_4\omega_5^2\omega_2v_1^2 - 12\omega_5^2\omega_2v_1^2$$

$$C_{34} = -36\omega_4^3cs^2\omega_5^2 - 3\omega_4^3\omega_2^3 - 30\omega_4^3\omega_5^2\omega_2v_1^2 - 12\omega_4^3\omega_2^2v_1^2 + 6\omega_4\omega_5^2\omega_2^2v_1^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 6\omega_4^3\omega_5\omega_2^3 + 6\omega_4^2\omega_5\omega_2^3v_1^2 + 78\omega_4^3cs^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^2 + 42\omega_4^3\omega_5\omega_2^2v_1^2 - 21\omega_4^3\omega_5\omega_2^2 + 42\omega_4^2cs^2\omega_5^2\omega_2^2 - 12\omega_4^2\omega_5\omega_2^2v_1^2 + 6\omega_5^2\omega_2^3v_1^2 + 12\omega_4^3\omega_5\omega_2 + \omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^3v_1^2 - 12\omega_4\omega_5^2\omega_2^3v_1^2 - 48\omega_4^3cs^2\omega_5^2\omega_2^2 - 3\omega_4^2\omega_5^2\omega_2^2 + 12\omega_4^2\omega_5^2\omega_2v_1^2 - 12\omega_4^3\omega_5\omega_2^3v_1^2 + 6\omega_4^3cs^2\omega_5^2\omega_2^2 + 6\omega_4^2\omega_5\omega_2^2 - 12\omega_4^2\omega_5^2\omega_2^2v_1^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 6\omega_4^3\omega_5^2\omega_2 - 12\omega_4cs^2\omega_5^2\omega_2^2 - 3\omega_4^2\omega_5\omega_2^3 + 42\omega_4^3cs^2\omega_5\omega_2^2 - 24\omega_4^3cs^2\omega_5\omega_2 + 6\omega_4^3cs^2\omega_2^3 + 24\omega_4^3\omega_5^2v_1^2 - 24\omega_4^3\omega_5\omega_2v_1^2 + 7\omega_4^3\omega_5^2\omega_2^2 + 6\omega_4^2\omega_5^2\omega_2^3v_1^2 - 12\omega_4^2cs^2\omega_5\omega_2^2 + 6\omega_4^3\omega_5^2\omega_2^2v_1^2 - 12\omega_4^3cs^2\omega_2^2 + 6\omega_4^2cs^2\omega_5\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3$$

$$C_{35} = -12\omega_4^3cs^2\omega_5^2 - 30\omega_4^3\omega_5^2\omega_2v_1^2 - 12\omega_4^3\omega_2^2v_1^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 3\omega_4^3\omega_5\omega_2^3 + 12\omega_4^2\omega_5\omega_2^3v_1^2 + 36\omega_4^3cs^2\omega_5^2\omega_2 + 36\omega_4^3\omega_5\omega_2^2v_1^2 - 6\omega_4^3\omega_5\omega_2^2 + 48\omega_4^2cs^2\omega_5^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2v_1^2 + 12\omega_5^2\omega_2^3v_1^2 + 2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^3v_1^2 - 18\omega_4\omega_5^2\omega_2^3v_1^2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 6\omega_4^2\omega_5^2\omega_2^2 - 12\omega_4^3\omega_5\omega_2^3v_1^2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 + 12\omega_4^2\omega_5^2\omega_2^2v_1^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 12\omega_4cs^2\omega_5^2\omega_2^2 - 6\omega_4^2\omega_5\omega_2^3 + 36\omega_4^3cs^2\omega_5\omega_2^2 + 3\omega_4^3\omega_5^2\omega_2^3v_1^2 - 12\omega_4^3cs^2\omega_5\omega_2 + 6\omega_4^3cs^2\omega_2^3 + 24\omega_4^3\omega_5^2v_1^2 - 12\omega_4^3\omega_5\omega_2v_1^2 + 3\omega_4^3\omega_5^2\omega_2^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3$$

$$C_{36} = -\omega_2^2\omega_2^3 - 12cs^2\omega_2^2 - 8\omega_5^2\omega_2^2v_1^2 + 11\omega_5^2\omega_2^2 - 36\omega_5\omega_2v_1^2 + 12\omega_5^2v_1^2 + 6cs^2\omega_2^3 - 36cs^2\omega_5\omega_2 + \omega_5^2\omega_2^3v_1^2 + 48cs^2\omega_5\omega_2^2 - 6\omega_2^3 - 12\omega_5^2\omega_2 - 12cs^2\omega_5\omega_2^3 + 12\omega_2^2 + 4cs^2\omega_5^2\omega_2^3 - 12\omega_5\omega_2^3v_1^2 - 44cs^2\omega_5^2\omega_2^2 + 6\omega_2^3v_1^2 + 24\omega_5\omega_2 - 36\omega_5\omega_2^2 + 48\omega_5\omega_2^2v_1^2 + 90cs^2\omega_5^2\omega_2 + 9\omega_5\omega_2^3 - 12\omega_2^2v_1^2 - 48cs^2\omega_5^2$$

$$C_{37} = 18\omega_4\omega_2\omega_3^3 - 6\omega_4\omega_3^3 + 18\omega_4^3\omega_2\omega_3 - 12\omega_4\omega_2\omega_3^2 - 16\omega_4^3\omega_2\omega_3^2 - 6\omega_4^3\omega_2 + 3\omega_4^3\omega_2\omega_3^3 - 12\omega_4^2\omega_2\omega_3 + 12\omega_4^3\omega_3^2 - 6\omega_2\omega_3^3 - 4\omega_4^3\omega_3^3 - 12\omega_4^2\omega_3^2 - 16\omega_4^2\omega_2\omega_3^3 + 30\omega_4^2\omega_2\omega_3^2 + 12\omega_4^2\omega_3^3 - 6\omega_4^3\omega_3$$

$$C_{38} = -4\omega_4^3\omega_2^2 + 12\omega_4^3\omega_2^2 + 18\omega_4^3\omega_2\omega_3 - 16\omega_4^2\omega_2^3\omega_3 - 6\omega_4^3\omega_2 + 12\omega_4^2\omega_2^2 + 30\omega_4^2\omega_2^2\omega_3 - 12\omega_4^2\omega_2^2 - 6\omega_2^3\omega_3 - 12\omega_4^2\omega_2\omega_3 + 3\omega_4^3\omega_2^3\omega_3 - 12\omega_4\omega_2^2\omega_3 - 6\omega_4\omega_2^2 - 16\omega_4^3\omega_2^2\omega_3 + 18\omega_4\omega_2^3\omega_3 - 6\omega_4^3\omega_3$$

$$C_{39} = 12\omega_2^3\omega_3^2 + 18\omega_4\omega_2\omega_3^3 - 6\omega_4\omega_3^3 - 4\omega_2^3\omega_3^3 - 12\omega_4\omega_2\omega_3^2 - 12\omega_2^2\omega_3^2 + 12\omega_2^2\omega_3^2 - 6\omega_2^3\omega_3 - 16\omega_4\omega_2^3\omega_3^2 - 6\omega_2\omega_3^3 - 12\omega_4\omega_2^2\omega_3 + 3\omega_4\omega_2^3\omega_3^3 - 6\omega_4\omega_2^3 + 30\omega_4\omega_2^2\omega_3^2 + 18\omega_4\omega_2^3\omega_3 - 16\omega_4\omega_2^2\omega_3^3$$

$$C_{40} = -2\omega_4^3cs^2\omega_5^2\omega_2^3\omega_3^2 - 2\omega_4^3cs^2\omega_2^2\omega_3^3 + 7\omega_4^2\omega_5^2\omega_2v_1^2\omega_3^3 + \omega_4^3\omega_5\omega_2^3v_1^2\omega_3^2 + 12\omega_4^3\omega_5^2\omega_2^2v_1^2\omega_3^3 + 3\omega_4^2\omega_5^2\omega_2^3v_1^2\omega_3 - 2\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3 + \omega_4^3cs^2\omega_2^2\omega_2^3\omega_3^3 - 2\omega_4^3\omega_5\omega_2^3v_1^2\omega_3^3 - 12\omega_4^3\omega_5^2\omega_2^2v_1^2\omega_3^2 + \omega_4^2cs^2\omega_5\omega_2^3\omega_3^3 - 8\omega_4\omega_5^2\omega_2^3v_1^2\omega_3^3 + 4\omega_4^3\omega_5^2\omega_2^2v_1^2\omega_3 - 2\omega_4^2cs^2\omega_5^2\omega_2\omega_3^3 + \omega_4^3\omega_2^3v_1^2\omega_3^3 - 2\omega_4^3\omega_5\omega_2v_1^2\omega_3^3 + \omega_4^3cs^2\omega_2^3\omega_3^3 + 3\omega_5^2\omega_2^3v_1^2\omega_3^3 + 10\omega_4^3\omega_2^2v_1^2\omega_3^3 - 2\omega_4^2\omega_5\omega_2^2v_1^2\omega_3^3 + 6\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^2 - 8\omega_4^2\omega_5^2\omega_2^3v_1^2\omega_3^2 - 2\omega_4^3cs^2\omega_5\omega_2\omega_3^3 - 2\omega_4^2cs^2\omega_5\omega_2^2\omega_3^3 + 3\omega_4\omega_5^2\omega_2^3v_1^2\omega_3^2 + \omega_4^3cs^2\omega_5^2\omega_2^3\omega_3 + 7\omega_4^2\omega_5^2\omega_2^3v_1^2\omega_3^3 - 6\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^3 + 7\omega_4^3\omega_5^2\omega_2^3v_1^2\omega_3^2 - 2\omega_4^2cs^2\omega_5^2\omega_2^2\omega_3^2 + 6\omega_4^3\omega_5\omega_2^2v_1^2\omega_3^3 + 6\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^3 - 2\omega_4^3cs^2\omega_5\omega_2^3\omega_3^3 - 2\omega_4cs^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^2cs^2\omega_5^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2^3v_1^2\omega_3^2 + 3\omega_4^3\omega_5^2\omega_2^3v_1^2 + 6\omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 - 2\omega_4^3cs^2\omega_5^2\omega_2\omega_3^3 - 12\omega_4^2\omega_5^2\omega_2^2v_1^2\omega_3^3 + \omega_4cs^2\omega_5^2\omega_2^3\omega_3^3 + \omega_4^3cs^2\omega_5\omega_2^3\omega_3^3 - 21\omega_4^3\omega_5^2\omega_2v_1^2\omega_3^3 + \omega_4^2cs^2\omega_5^2\omega_2^3\omega_3^2 - 2\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^3 - 2\omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 + 4\omega_4^2\omega_5^2\omega_2^2v_1^2\omega_3^3 + \omega_4^2\omega_5\omega_2^3v_1^2\omega_3^3 + 4\omega_4\omega_5^2\omega_2^2v_1^2\omega_3^3 - 8\omega_4^3\omega_5^2\omega_2^3v_1^2\omega_3 - 2\omega_4^2cs^2\omega_5^2\omega_2^3\omega_3^3 + 7\omega_4^3\omega_5^2\omega_2v_1^2\omega_3^2 - 2\omega_4^3\omega_2^2v_1^2\omega_3^3$$

$$C_{41} = 12\omega_4^3\omega_2^3 + 12\omega_4^2\omega_2^2\omega_3^2 + 12\omega_2^3\omega_3^3 - 30\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^2\omega_2^3\omega_3 + 18\omega_4^3\omega_2\omega_3^2 - 42\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^3\omega_3^3 - 36\omega_4^3\omega_2\omega_3^3 + 18\omega_4\omega_2^3\omega_3^2 - 30\omega_4^3\omega_2^3\omega_3 + 28\omega_4^3\omega_2^2\omega_3^3 - 30\omega_4^3\omega_2^2\omega_3^2 + 12\omega_4^3\omega_3^3 - 30\omega_4\omega_2^3\omega_3^3 + 6\omega_4^3\omega_2^2\omega_3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^2\omega_2\omega_3^3 + 6\omega_4\omega_2^2\omega_3^3 + 24\omega_4^3\omega_2^3\omega_3^2$$

$$C_{42} = -12\omega_4^3cs^2\omega_5^2 - 90\omega_4^3\omega_5^2\omega_2v_1^2 - 12\omega_4^3\omega_2^2v_1^2 + 24\omega_4\omega_5^2\omega_2^2v_1^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^3v_1^2 + 36\omega_4^3cs^2\omega_5^2\omega_2 + 36\omega_4^3\omega_5\omega_2^2v_1^2 + 48\omega_4^2cs^2\omega_5^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2v_1^2 + 12\omega_5^2\omega_2^3v_1^2 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^3v_1^2 - 30\omega_4\omega_5^2\omega_2^3v_1^2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2\omega_2v_1^2 - 12\omega_4^3\omega_5\omega_2^3v_1^2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 - 60\omega_4^2\omega_5^2\omega_2^2v_1^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 12\omega_4cs^2\omega_5^2\omega_2^2 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 5\omega_4^3\omega_5^2\omega_2^3v_1^2 - 12\omega_4^3cs^2\omega_5\omega_2 + 6\omega_4^3cs^2\omega_2^3 + 48\omega_4^3\omega_5^2v_1^2 - 12\omega_4^3\omega_5\omega_2v_1^2 + 24\omega_4^2\omega_5^2\omega_2^3v_1^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 + 40\omega_4^3\omega_5^2\omega_2^2v_1^2 - 12\omega_4^3cs^2\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^3$$

$$C_{43} = -12\omega_2^2v_1^2\omega_3^3 + 48\omega_5^2\omega_2v_1^2\omega_3^2 - 30\omega_5^2\omega_2^3v_1^2\omega_3 - 12cs^2\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 90\omega_5^2\omega_2v_1^2\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 36cs^2\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 12\omega_5^2\omega_2^3v_1^2 - 5\omega_5^2\omega_2^3v_1^2\omega_3^3 - 24\omega_5\omega_2^2v_1^2\omega_3^2 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^2 + 24\omega_5^2\omega_2^3v_1^2\omega_3^2 + 36\omega_5\omega_2^2v_1^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^2\omega_3^3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5\omega_2\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_5\omega_2v_1^2\omega_3^3 + 6\omega_2^3v_1^2\omega_3^3 + 24\omega_5^2\omega_2^2v_1^2\omega_3 - 12\omega_5\omega_2^3v_1^2\omega_3^3 - 60\omega_5^2\omega_2^2v_1^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 + 12\omega_5\omega_2^3v_1^2\omega_3^2 + 40\omega_5^2\omega_2^2v_1^2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2$$

$$C_{44} = 12\omega_4\omega_6\omega_3^3 + 24\omega_4^3\omega_6\omega_3 - 6\omega_4\omega_6\omega_3^2 - 10\omega_4^3\omega_6\omega_3^2 + \omega_4^3\omega_6\omega_3^3 - 6\omega_6\omega_3^3 - 6\omega_4^3\omega_3^2 - 12\omega_4^2\omega_6\omega_3 + 3\omega_4^3\omega_3^3 - 7\omega_4^2\omega_6\omega_3^3 - 12\omega_4^3\omega_6 + 12\omega_4^2\omega_3^2 + 12\omega_4^2\omega_6\omega_3^2 - 6\omega_4^2\omega_3^3$$

$$C_{45} = -6v_2^2\omega_6\omega_3^3 - 6cs^2\omega_6\omega_3^3 + 9\omega_4v_2^2\omega_6\omega_3^3 + 9\omega_4cs^2\omega_6\omega_3^3 - 6\omega_4v_2^2\omega_3^3 - 6\omega_4cs^2\omega_3^3 - 24\omega_4v_2^2\omega_6^2 + 12\omega_4cs^2\omega_6^2 - 30\omega_4cs^2\omega_6\omega_3^2 - 30\omega_4v_2^2\omega_6\omega_3^2 + 12cs^2\omega_6\omega_3^2 + 12v_2^2\omega_6\omega_3^2 + 12\omega_4cs^2\omega_3^2 + 12\omega_4v_2^2\omega_3^2 + 12\omega_4v_2^2\omega_6\omega_3 + 12\omega_4cs^2\omega_6\omega_3 + 36\omega_4v_2^2\omega_6^2\omega_3 - 30\omega_4cs^2\omega_6^2\omega_3 - 12v_2^2\omega_6^2\omega_3 + 12cs^2\omega_6^2\omega_3 + 22\omega_4cs^2\omega_6^2\omega_3^2 - 10\omega_4v_2^2\omega_6^2\omega_3^2 - 18cs^2\omega_6^2\omega_3^2 + 6v_2^2\omega_6^2\omega_3^2 - v_2^2\omega_6^2\omega_3^3 + 3cs^2\omega_6^2\omega_3^3 + \omega_4v_2^2\omega_6^2\omega_3^3 - 2\omega_4cs^2\omega_6^2\omega_3^3$$

$$C_{46} = -8\omega_4^3v_2^2\omega_2\omega_6^2\omega_3^3 + \omega_4^3cs^2\omega_2\omega_6^2\omega_3^3 - 2\omega_4^3cs^2\omega_2^2\omega_6\omega_3^2 - 2\omega_4^3v_2^2\omega_2^2\omega_6\omega_3^2 + \omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^3 - 8\omega_4^2v_2^2\omega_2^2\omega_6^2\omega_3^3 + 3\omega_4^3v_2^2\omega_6^2\omega_3^3 + 3\omega_4v_2^2\omega_2^2\omega_6^2\omega_3^3 - 21\omega_4^3v_2^2\omega_3^2\omega_6^2\omega_3 + 6\omega_4^3cs^2\omega_3^2\omega_6^2\omega_3 + \omega_4^3cs^2\omega_2^2\omega_6\omega_3^3 + \omega_4^3v_2^2\omega_2^2\omega_6\omega_3^3 + 4\omega_4^3v_2^2\omega_2\omega_6^2\omega_3^2 - 2\omega_4^3cs^2\omega_2\omega_6^2\omega_3^2 - 2\omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^2 + 4\omega_4^2v_2^2\omega_2^2\omega_6^2\omega_3^2 + \omega_4^2cs^2\omega_3^2\omega_6\omega_3^3 + \omega_4^2v_2^2\omega_3^2\omega_6\omega_3^3 - 2\omega_4^3cs^2\omega_3^2\omega_6^2 + 10\omega_4^3v_2^2\omega_3^2\omega_6^2 + \omega_4^3cs^2\omega_3^3 + \omega_4^3v_2^2\omega_3^3\omega_3^2 - 6\omega_4^3cs^2\omega_3^2\omega_6^2\omega_3^2 + 12\omega_4^3v_2^2\omega_3^2\omega_6^2\omega_3^2 - 2\omega_4^2cs^2\omega_3^2\omega_6\omega_3^3 - 2\omega_4^2v_2^2\omega_3^2\omega_6\omega_3^3 + \omega_4^3cs^2\omega_3^2\omega_6^2\omega_3^3 - 2\omega_4^3v_2^2\omega_3^2\omega_6^2\omega_3^3 - 2\omega_4^3cs^2\omega_3^3\omega_6^2 + 3v_2^2\omega_3^2\omega_6^2\omega_3^3 - 12\omega_4^2v_2^2\omega_3^2\omega_6^2\omega_3^3 + 6\omega_4^2cs^2\omega_3^2\omega_6^2\omega_3^3 + \omega_4cs^2\omega_3^2\omega_6^2\omega_3^3 - 2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3 - 8\omega_4v_2^2\omega_3^2\omega_6^2\omega_3^3 + 7\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3 - 2\omega_4^3v_2^2\omega_3^2\omega_6^2\omega_3 - 2\omega_4^3cs^2\omega_3^2\omega_6\omega_3^3 + 7\omega_4^2v_2^2\omega_3^2\omega_6^2\omega_3^3 - 2\omega_4^2cs^2\omega_3^2\omega_6^2\omega_3^3 + 6\omega_4^3v_2^2\omega_3^2\omega_6\omega_3^3 + 6\omega_4^3cs^2\omega_3^2\omega_6^2\omega_3^2 - 2\omega_4cs^2\omega_3^2\omega_6^2\omega_3^3 + 4\omega_4v_2^2\omega_3^2\omega_6^2\omega_3^2 - 2\omega_4^3cs^2\omega_2^2\omega_6\omega_3 - 2\omega_4^3v_2^2\omega_2^2\omega_6\omega_3^2 + 7\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^2 + 3\omega_4^2v_2^2\omega_2\omega_6^2\omega_3^3 - 12\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3^2 + 6\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^3 - 2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3 + 7\omega_4^2v_2^2\omega_2^2\omega_6^2\omega_3$$

$$C_{47} = -5\omega_4^3v_2^2\omega_6^2\omega_3^3 + 4\omega_4^3cs^2\omega_6^2\omega_3^3 - 24\omega_4^2cs^2\omega_6^2\omega_3 + 48\omega_4^2v_2^2\omega_6^2\omega_3 - 32\omega_4^3cs^2\omega_6^2\omega_3^2 + 40\omega_4^3v_2^2\omega_6^2\omega_3^2 - 90\omega_4^3v_2^2\omega_6^2\omega_3 + 36\omega_4^3cs^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_3^2 - 12\omega_4^3v_2^2\omega_3^2 - 60\omega_4^2v_2^2\omega_6^2\omega_3^2 + 48\omega_4^2cs^2\omega_6^2\omega_3^2 + 48\omega_4^3v_2^2\omega_6^2 - 12\omega_4^3cs^2\omega_6^2 + 6\omega_4^3v_2^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^2 - 12\omega_4^2cs^2\omega_6^2\omega_3^2 + 24\omega_4^2v_2^2\omega_6^2\omega_3^2 + 12\omega_4^2cs^2\omega_6\omega_3^2 + 12\omega_4^2v_2^2\omega_6\omega_3^2 - 12\omega_4^3v_2^2\omega_6\omega_3 - 12\omega_4^3cs^2\omega_6\omega_3 - 24\omega_4^2v_2^2\omega_6\omega_3^2 - 24\omega_4^2cs^2\omega_6\omega_3^2 - 12\omega_4cs^2\omega_6^2\omega_3^2 + 24\omega_4v_2^2\omega_6^2\omega_3^2 + 36\omega_4^3cs^2\omega_6\omega_3^2 + 36\omega_4^3v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 - 30\omega_4v_2^2\omega_6^2\omega_3^3 + 6\omega_4cs^2\omega_6^2\omega_3^3 - 12\omega_4^3v_2^2\omega_6\omega_3^3 - 12\omega_4^3cs^2\omega_6\omega_3^3$$

$$C_{48} = 12\omega_4^3\omega_2^3 + 12\omega_4^2\omega_2^2\omega_3^2 + 12\omega_2^3\omega_3^3 - 42\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^2\omega_2^3\omega_3 + 6\omega_4^3\omega_2\omega_3^2 - 30\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^3\omega_3^3 - 30\omega_4^3\omega_2\omega_3^3 + 6\omega_4\omega_2^3\omega_3^2 - 36\omega_4^3\omega_2^3\omega_3 + 24\omega_4^3\omega_2^2\omega_3^3 - 30\omega_4^3\omega_2^2\omega_3^2 + 12\omega_4^3\omega_3^3 - 30\omega_4\omega_2^3\omega_3^3 + 18\omega_4^3\omega_2^2\omega_3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^2\omega_2\omega_3^3 + 18\omega_4\omega_2^2\omega_3^3 + 28\omega_4^3\omega_2^3\omega_3^2$$

$$C_{49} = -60v_2^2\omega_2^2\omega_6^2\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 + 24v_2^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12v_2^2\omega_2^3\omega_6\omega_3 + 36v_2^2\omega_2^3\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 - 12v_2^2\omega_2^3\omega_6\omega_3^3 - 12cs^2\omega_2^3\omega_6^2\omega_3^3 - 24cs^2\omega_2^2\omega_6^2\omega_3 + 48v_2^2\omega_2^2\omega_6^2\omega_3 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 - 5v_2^2\omega_2^3\omega_6^2\omega_3^3 - 12v_2^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^3\omega_6^2 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 + 48v_2^2\omega_2^3\omega_6^2 + 6cs^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_3^3 + 40v_2^2\omega_2^3\omega_6^2\omega_3^2 + 12cs^2\omega_2^2\omega_6\omega_3^3 + 12v_2^2\omega_2^2\omega_6\omega_3^3 + 24v_2^2\omega_2\omega_6^2\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 90v_2^2\omega_2^3\omega_6^2\omega_3 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_6^2\omega_3^3 - 30v_2^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 24cs^2\omega_2^2\omega_6\omega_3^2 - 24v_2^2\omega_2^2\omega_6\omega_3^2$$

$$C_{50} = -3\omega_4^2\omega_6^2\omega_3^2 + 6\omega_4^3cs^2\omega_6^2\omega_3^3 + 12\omega_4^3\omega_6\omega_3 - 24\omega_4^2cs^2\omega_6^2\omega_3 + \omega_4^2\omega_6^2\omega_3^3 + 12\omega_4^2v_2^2\omega_6^2\omega_3 - 48\omega_4^3cs^2\omega_6^2\omega_3^2 + 6\omega_4^3v_2^2\omega_6^2\omega_3^2 - 30\omega_4^3v_2^2\omega_6^2\omega_3 + 78\omega_4^3cs^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_3^2 - 12\omega_4^3v_2^2\omega_3^2 - 21\omega_4^3\omega_6\omega_3^2 - 12\omega_4^2v_2^2\omega_6^2\omega_3^2 + 42\omega_4^2cs^2\omega_6^2\omega_3^2 + 24\omega_4^3v_2^2\omega_6^2 - 36\omega_4^3cs^2\omega_6^2 + 6\omega_4^3v_2^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^2 - 12\omega_4^2cs^2\omega_6^2\omega_3^2 + 6\omega_4^2v_2^2\omega_6^2\omega_3^2 + 6\omega_4^3\omega_6\omega_3^2 + 6\omega_4^3\omega_3^2 + 6\omega_4^2cs^2\omega_6\omega_3^2 + 6\omega_4^2v_2^2\omega_6\omega_3^2 - \omega_4^3\omega_6^2\omega_3^2 - 3\omega_4^3\omega_3^2 - 24\omega_4^3v_2^2\omega_6\omega_3 - 24\omega_4^3cs^2\omega_6\omega_3 + 7\omega_4^3\omega_6^2\omega_3^2 - 12\omega_4^2v_2^2\omega_6\omega_3^2 - 12\omega_4^2cs^2\omega_6\omega_3^2 - 6\omega_4^3\omega_6^2\omega_3 - 12\omega_4cs^2\omega_6^2\omega_3^2 + 6\omega_4v_2^2\omega_6^2\omega_3^2 - 3\omega_4^2\omega_6\omega_3^2 + 42\omega_4^3cs^2\omega_6\omega_3^2 + 42\omega_4^3v_2^2\omega_6\omega_3^2 + 6\omega_4^2\omega_6\omega_3^2 + 6v_2^2\omega_6^2\omega_3^3 - 12\omega_4v_2^2\omega_6^2\omega_3^3 + 6\omega_4cs^2\omega_6^2\omega_3^3 - 12\omega_4^3v_2^2\omega_6\omega_3^3 - 12\omega_4^3cs^2\omega_6\omega_3^3$$

$$C_{51} = -6\omega_4^2\omega_6^2\omega_3^2 + 3\omega_4^3v_2^2\omega_6^2\omega_3^2 + 4\omega_4^3cs^2\omega_6^2\omega_3^2 - 24\omega_4^2cs^2\omega_6^2\omega_3 + 2\omega_4^2\omega_6^2\omega_3^3 - 32\omega_4^3cs^2\omega_6^2\omega_3^2 - 30\omega_4^3v_2^2\omega_6^2\omega_3 + 36\omega_4^3cs^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_3^2 - 12\omega_4^3v_2^2\omega_3^2 - 6\omega_4^3\omega_6\omega_3^2 + 12\omega_4^2v_2^2\omega_6^2\omega_3^2 + 48\omega_4^2cs^2\omega_6^2\omega_3^2 + 24\omega_4^3v_2^2\omega_6^2 - 12\omega_4^3cs^2\omega_6^2 + 6\omega_4^3v_2^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^2 - 12\omega_4^2cs^2\omega_6^2\omega_3^2 + 3\omega_4^3\omega_6\omega_3^2 + 12\omega_4^2cs^2\omega_6\omega_3^2 + 12\omega_4^2v_2^2\omega_6\omega_3^2 - \omega_4^3\omega_6^2\omega_3^2 - 12\omega_4^3v_2^2\omega_6\omega_3 - 12\omega_4^3cs^2\omega_6\omega_3 - 6\omega_4^2\omega_6\omega_3^2 + 36\omega_4^3cs^2\omega_6\omega_3^2 + 36\omega_4^3v_2^2\omega_6\omega_3^2 + 12\omega_4^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 - 18\omega_4v_2^2\omega_6^2\omega_3^3 + 6\omega_4cs^2\omega_6^2\omega_3^3 - 12\omega_4^3v_2^2\omega_6\omega_3^3 - 12\omega_4^3cs^2\omega_6\omega_3^3$$

$$C_{52} = -12v_2^2\omega_6\omega_3^3 - 12cs^2\omega_6\omega_3^3 + 48cs^2\omega_6\omega_3^2 + 48v_2^2\omega_6\omega_3^2 - 12\omega_6^2\omega_3 + 11\omega_6^2\omega_3^2 - 36v_2^2\omega_6\omega_3 - 36cs^2\omega_6\omega_3 - \omega_6^2\omega_3^3 + 9\omega_6\omega_3^3 + 6v_2^2\omega_3^3 + 6cs^2\omega_3^3 + 12v_2^2\omega_6^2 - 48cs^2\omega_6^2 - 36\omega_6\omega_3^2 - 12cs^2\omega_3^2 - 12v_2^2\omega_3^2 + 90cs^2\omega_6^2\omega_3 - 44cs^2\omega_6^2\omega_3^2 - 8v_2^2\omega_6^2\omega_3^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 + 4cs^2\omega_6^2\omega_3^3 - 6\omega_3^3$$

$$C_{53} = 12\omega_7^2\omega_4cs^2 + 12\omega_4^2v_3^2\omega_2 + 36\omega_7^2\omega_4v_3^2\omega_2 - \omega_7^2\omega_4^3v_3^2 + 12\omega_4^2cs^2\omega_2 + 12\omega_7\omega_4^2cs^2 - 30\omega_7^2\omega_4cs^2\omega_2 - 30\omega_7\omega_4^2v_3^2\omega_2 - 2\omega_7^2\omega_4^3cs^2\omega_2 + \omega_7^2\omega_4^3v_3^2\omega_2 - 6\omega_7\omega_4^3cs^2 - 30\omega_7\omega_4^2cs^2\omega_2 + 6\omega_7^2\omega_4^2v_3^2 + 12\omega_7^2cs^2\omega_2 + 12\omega_7\omega_4v_3^2\omega_2 - 6\omega_4^3cs^2\omega_2 - 12\omega_7^2\omega_4v_3^2 - 6\omega_4^3v_3^2\omega_2 + 12\omega_7\omega_4^2v_3^2 + 12\omega_7\omega_4^2cs^2\omega_2 + 3\omega_7^2\omega_4^3cs^2 - 24\omega_7^2v_3^2\omega_2 + 9\omega_7\omega_4^3cs^2\omega_2 - 10\omega_7^2\omega_4^2v_3^2\omega_2 - 18\omega_7^2\omega_4^2cs^2 + 22\omega_7^2\omega_4^2cs^2\omega_2 - 6\omega_7\omega_4^3v_3^2 + 9\omega_7\omega_4^3v_3^2\omega_2$$

$$C_{54} = -7\omega_7\omega_4^3\omega_2^2 + 3\omega_4^3\omega_2^3 - 6\omega_7\omega_4^3 - 6\omega_7\omega_4^2\omega_2 - 6\omega_4^3\omega_2^2 + \omega_7\omega_4^3\omega_2^3 + 12\omega_7\omega_4^2\omega_2^2 - 6\omega_4^2\omega_2^3 - 12\omega_7\omega_2^3 + 12\omega_4^2\omega_2^2 + 12\omega_7\omega_4^2\omega_2 - 10\omega_7\omega_4^2\omega_2^3 + 24\omega_7\omega_4\omega_2^3 - 12\omega_7\omega_4\omega_2^2$$

$$C_{55} = -4\omega_7\omega_4cs^2\omega_5^2\omega_2^3v_1^2 + 20\omega_7^2\omega_4^2\omega_5^2v_3^2\omega_2v_1^2 - 3\omega_7\omega_4^3\omega_5^2v_3^2\omega_2^3v_1^2 - 4\omega_7^2\omega_4^2cs^2\omega_5v_3^2\omega_2^2 + 4\omega_7^2\omega_4^2cs^4\omega_5\omega_2^2 + 12\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^2v_1^2 - 8\omega_7^2\omega_4^3cs^2\omega_5^2v_3^2\omega_2^2 - 2\omega_7^2\omega_4^3cs^2\omega_5\omega_2^2v_1^2 + 2\omega_7^2\omega_4^3v_3^2\omega_2^3v_1^2 - 4\omega_7^2\omega_4^3cs^2\omega_5^2v_3^2 + 2\omega_7^2\omega_4^2\omega_5v_3^2\omega_2^3v_1^2 - 2\omega_7^2\omega_4^2cs^4\omega_5\omega_2^3 + 2\omega_7^2\omega_4^2cs^2\omega_5v_3^2\omega_2^3 + 4\omega_7^2\omega_4^3cs^2\omega_5^2\omega_2v_1^2 + 10\omega_7\omega_4^2cs^2\omega_5^2\omega_2^3v_1^2 + \omega_7^2\omega_4^3cs^2\omega_5^2v_3^2\omega_2^3 + 20\omega_7^2\omega_4^3\omega_5^2v_3^2\omega_2^2v_1^2 - 4\omega_7^2\omega_4cs^2\omega_5^2\omega_2^2v_1^2 + 20\omega_7^2\omega_5^2v_3^2\omega_2^3v_1^2 + \omega_7^2\omega_4^3cs^2\omega_5\omega_2^3v_1^2 - 4\omega_7^2\omega_4^3\omega_5v_3^2\omega_2v_1^2 + \omega_7^2\omega_4^3cs^4\omega_5\omega_2^3 - 2\omega_7^2\omega_4cs^4\omega_5^2\omega_2^3 - 8\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^3v_1^2 + 2\omega_4^3\omega_5^2v_3^2\omega_2^3v_1^2 + 2\omega_7\omega_4^3\omega_5^2v_3^2\omega_2^2v_1^2 + \omega_7\omega_4^3cs^2\omega_5^2v_3^2\omega_2^3 + 10\omega_7^2\omega_4cs^2\omega_5^2\omega_2^3v_1^2 + 10\omega_7^2\omega_4^3cs^2\omega_5^2v_3^2\omega_2 - 3\omega_7^2\omega_4^3\omega_5^2v_3^2\omega_2^3v_1^2 - 4\omega_4^2cs^2\omega_5^2\omega_2^3v_1^2 - 4\omega_7\omega_4^2cs^2\omega_5^2\omega_2^2v_1^2 - 2\omega_7^2\omega_4^3cs^4\omega_5\omega_2^2 - 2\omega_7\omega_4^3cs^2\omega_5^2v_3^2\omega_2^2 + 4\omega_7^2\omega_4cs^4\omega_5^2\omega_2^2 - 4\omega_7^2\omega_4^3v_3^2\omega_2^2v_1^2 - 4\omega_7^2\omega_4^2\omega_5v_3^2\omega_2^2v_1^2 - 4\omega_7\omega_4^2\omega_5^2v_3^2\omega_2^2v_1^2 - 4\omega_4^2\omega_5^2v_3^2\omega_2^3v_1^2 - 2\omega_7\omega_4^2cs^2\omega_5^2v_3^2\omega_2^3 + \omega_7^2\omega_4^3cs^2\omega_5^2\omega_2^2v_1^2 + 4\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^2 - 38\omega_7^2\omega_4\omega_5^2v_3^2\omega_2^3v_1^2 + \omega_7\omega_4^3cs^4\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2 - 2\omega_7^2\omega_4^2cs^2\omega_5\omega_2^3v_1^2 - \omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^3 + 10\omega_7^2\omega_4^3\omega_5v_3^2\omega_2^2v_1^2 + 20\omega_7^2\omega_4^3\omega_5^2v_3^2v_1^2 + 4\omega_7\omega_4^2cs^2\omega_5^2v_3^2\omega_2^2 - 4\omega_7^2\omega_4^3cs^2\omega_5v_3^2\omega_2 + 2\omega_7\omega_4^3cs^2\omega_5^2\omega_2^2v_1^2 + 2\omega_4^3cs^2\omega_5^2\omega_2^3v_1^2 - 4\omega_7^2\omega_4^2cs^2\omega_5^2v_3^2\omega_2 + 20\omega_7^2\omega_4^2\omega_5^2v_3^2\omega_2^3v_1^2 - 2\omega_7\omega_4^3cs^4\omega_5^2\omega_2^2 + 4\omega_7^2\omega_4^2cs^2\omega_5\omega_2^3v_1^2 - 4\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4cs^2\omega_5^2v_3^2\omega_2^3 + 4\omega_7\omega_4^2cs^4\omega_5^2\omega_2^2 - 4\omega_7^2cs^2\omega_5^2\omega_2^3v_1^2 + 20\omega_7^2\omega_4\omega_5^2v_3^2\omega_2^3v_1^2 - 4\omega_7^2\omega_4^3cs^2\omega_5^2\omega_2^2v_1^2 + 10\omega_7^2\omega_4^3cs^2\omega_5v_3^2\omega_2^2 + 10\omega_7\omega_4^2\omega_5^2v_3^2\omega_2^3v_1^2 - 38\omega_7^2\omega_4^3\omega_5^2v_3^2\omega_2v_1^2 - 12\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^2 - 4\omega_7^2\omega_4^2cs^2\omega_5^2v_3^2\omega_2^3 - 36\omega_7^2\omega_4^2\omega_5^2v_3^2\omega_2^2v_1^2 + 2\omega_7^2\omega_4^3cs^2v_3^2\omega_2^3 - 3\omega_7\omega_4^3cs^2\omega_5^2\omega_2^3v_1^2 - 8\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2v_1^2 - 4\omega_7\omega_4\omega_5^2v_3^2\omega_2^3v_1^2 - 3\omega_7^2\omega_4^3cs^2\omega_5v_3^2\omega_2^3 - 8\omega_7^2\omega_4cs^2\omega_5^2v_3^2\omega_2^2 - 3\omega_7^2\omega_4^3\omega_5v_3^2\omega_2^3v_1^2 - 2\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2 - 2\omega_7\omega_4^2cs^4\omega_5^2\omega_2^3$$

$$C_{56} = \omega_7^2\omega_4^3cs^2\omega_2^3 + 24\omega_7\omega_4^2v_3^2\omega_2^3 + 22\omega_7^2\omega_4^3v_3^2\omega_2^2 + 24\omega_7\omega_4^2cs^2\omega_2^3 + 12\omega_7^2\omega_4^3v_3^2 - 6\omega_7^2\omega_4^3cs^2\omega_2^2 - 4\omega_7^2\omega_4^3v_3^2\omega_2^3 - 78\omega_7^2\omega_4v_3^2\omega_2^3 - 12\omega_4^2v_3^2\omega_2^3 + 6\omega_7^2\omega_4^3cs^2\omega_2 + 24\omega_7^2\omega_4v_3^2\omega_2^2 - 30\omega_7^2\omega_4^3v_3^2\omega_2 + 24\omega_7^2\omega_4cs^2\omega_2^3 - 12\omega_4^2cs^2\omega_2^3 + 34\omega_7^2\omega_4^2v_3^2\omega_2^3 + 12\omega_7^2\omega_4^2cs^2\omega_2^2 - 6\omega_7\omega_4^3cs^2\omega_2^3 - 48\omega_7^2\omega_4^2v_3^2\omega_2^2 - 6\omega_7\omega_4^3v_3^2\omega_2^3 - 14\omega_7^2\omega_4^2cs^2\omega_2^3 + 6\omega_4^3cs^2\omega_2^3 - 12\omega_7\omega_4v_3^2\omega_2^3 + 24\omega_7^2\omega_4^2v_3^2\omega_2 - 12\omega_7^2cs^2\omega_2^3 - 12\omega_7^2\omega_4^2cs^2\omega_2 + 48\omega_7^2v_3^2\omega_2^3 - 12\omega_7\omega_4cs^2\omega_2^3 + 6\omega_4^2v_3^2\omega_2^3$$

$$C_{57} = -12\omega_4^3cs^2\omega_5^2 - 78\omega_4^3\omega_5^2\omega_2v_1^2 - 12\omega_4^3\omega_2^2v_1^2 + 24\omega_4\omega_5^2\omega_2^2v_1^2 - 6\omega_4^2cs^2\omega_5^2\omega_2^3 + 24\omega_4^3cs^2\omega_5^2\omega_2 + 24\omega_4^3\omega_5\omega_2^2v_1^2 + 12\omega_4^2cs^2\omega_5^2\omega_2^2 + 12\omega_5^2\omega_2^3v_1^2 + 6\omega_4^3\omega_2^3v_1^2 - 30\omega_4\omega_5^2\omega_2^3v_1^2 - 14\omega_4^3cs^2\omega_5^2\omega_2^2 + 24\omega_4^2\omega_5^2\omega_2v_1^2 - 6\omega_4^3\omega_5\omega_2^3v_1^2 + \omega_4^3cs^2\omega_5^2\omega_2^3 - 48\omega_4^2\omega_5^2\omega_2^2v_1^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 6\omega_4^3cs^2\omega_5\omega_2^3 - 12\omega_4cs^2\omega_5^2\omega_2^2 + 24\omega_4^3cs^2\omega_5\omega_2^2 - 4\omega_4^3\omega_5^2\omega_2^3v_1^2 - 12\omega_4^3cs^2\omega_5\omega_2 + 6\omega_4^3cs^2\omega_2^3 + 48\omega_4^3\omega_5^2v_1^2 - 12\omega_4^3\omega_5\omega_2v_1^2 + 22\omega_4^2\omega_5^2\omega_2^3v_1^2 + 34\omega_4^3\omega_5^2\omega_2^2v_1^2 - 12\omega_4^3cs^2\omega_2^2$$

$$C_{58} = -6\omega_4^3v_3^2\omega_3 + 12\omega_7^2\omega_4cs^2 + 12\omega_7\omega_4cs^2\omega_3 - 24\omega_7^2v_3^2\omega_3 + 12\omega_7^2cs^2\omega_3 - \omega_7^2\omega_4^3v_3^2 + 12\omega_7\omega_4v_3^2\omega_3 + 12\omega_7\omega_4^2cs^2 - 6\omega_4^3cs^2\omega_3 + 22\omega_7^2\omega_4^2cs^2\omega_3 + 9\omega_7\omega_4^3v_3^2\omega_3 + 9\omega_7\omega_4^3cs^2\omega_3 - 6\omega_7\omega_4^3cs^2 + 6\omega_7^2\omega_4^2v_3^2 - 10\omega_7^2\omega_4^2v_3^2\omega_3 - 30\omega_7^2\omega_4cs^2\omega_3 + 12\omega_4^2cs^2\omega_3 - 12\omega_7^2\omega_4v_3^2 + 12\omega_7\omega_4^2v_3^2 + 36\omega_7^2\omega_4v_3^2\omega_3 + 12\omega_4^2v_3^2\omega_3 + 3\omega_7^2\omega_4^3cs^2 + \omega_7^2\omega_4^3v_3^2\omega_3 - 30\omega_7\omega_4^2cs^2\omega_3 - 18\omega_7^2\omega_4^2cs^2 - 30\omega_7\omega_4^2v_3^2\omega_3 - 6\omega_7\omega_4^3v_3^2 - 2\omega_7^2\omega_4^3cs^2\omega_3$$

$$C_{59} = -12\omega_7\omega_4\omega_3^2 - 6\omega_7\omega_4^3 + 24\omega_7\omega_4\omega_3^3 + \omega_7\omega_4^3\omega_3^3 - 6\omega_4^3\omega_3^2 - 6\omega_7\omega_4^2\omega_3 + 3\omega_4^3\omega_3^3 - 7\omega_7\omega_4^3\omega_3^2 - 12\omega_7\omega_3^3 - 10\omega_7\omega_4^2\omega_3^3 + 12\omega_7\omega_4^3\omega_3 + 12\omega_4^2\omega_3^2 - 6\omega_4^2\omega_3^3 + 12\omega_7\omega_4^2\omega_3^2$$

$$C_{60} = -8\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^2 - 2\omega_7\omega_4cs^2\omega_2^2\omega_3^2 + 7\omega_7^2\omega_4v_3^2\omega_2^2\omega_3^2 + 10\omega_7^2v_3^2\omega_2^3\omega_3^2 - 2\omega_7^2\omega_4cs^2\omega_2^3\omega_3^2 - 2\omega_7^2\omega_4^2cs^2\omega_2\omega_3^2 + \omega_7^3v_3^2\omega_2^3\omega_3^2 + 3\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^2 + 3\omega_7^2\omega_4^3v_3^2\omega_3^2 + 6\omega_7^2\omega_4cs^2\omega_2^3\omega_3^2 - 2\omega_4^2cs^2\omega_2^3\omega_3^2 - 21\omega_7^2\omega_4v_3^2\omega_2^3\omega_3^2 - 2\omega_4^2v_3^2\omega_2^3\omega_3^2 + \omega_4^3cs^2\omega_2^3\omega_3^2 - 2\omega_7^2cs^2\omega_2^3\omega_3^2 - 2\omega_7^2\omega_4cs^2\omega_2^2\omega_3^2 + 7\omega_7^2\omega_4v_3^2\omega_2^2\omega_3^2 + 4\omega_7^2\omega_4^2v_3^2\omega_2\omega_3^2 + \omega_7^2\omega_4^3cs^2\omega_2\omega_3^2 - 2\omega_7\omega_4v_3^2\omega_2^2\omega_3^2 - 12\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^2 - 2\omega_7\omega_4^3v_3^2\omega_2^2\omega_3^2 + 6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^2 + 4\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3 +$$

$$6\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3+7\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_2^3+\omega_7^2\omega_4^3cs^2\omega_2^3\omega_3+3\omega_7^2\omega_4^3v_2^2\omega_3^3-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3-6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3+\omega_7\omega_4^3v_2^2\omega_3^2\omega_2^3+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3+4\omega_7^2\omega_4^2v_2^2\omega_3^2\omega_2^2-2\omega_7\omega_4^2v_2^2\omega_3^2\omega_2^3+3\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_3+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_3^3-2\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_2^2-2\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3-2\omega_7\omega_4^2v_2^2\omega_3^2\omega_2^2+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3+12\omega_7^2\omega_4^2v_2^2\omega_3^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^2+\omega_7\omega_4^3v_2^2\omega_3^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_3-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^2+6\omega_7\omega_4^2v_2^2\omega_3^2\omega_3^3+7\omega_7^2\omega_4^3v_2^2\omega_3^2\omega_3^3+6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3-12\omega_7^2\omega_4^2v_2^2\omega_3^2\omega_3^2-2\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3$$

$$C_{61}=-12\omega_7\omega_4^3v_3^2\omega_3^3-60\omega_7^2\omega_4^2v_3^2\omega_3^2+12\omega_7\omega_4^3cs^2\omega_3^2-32\omega_7^2\omega_4^2cs^2\omega_3^3+12\omega_7\omega_4^3v_3^2\omega_3^2+40\omega_7^2\omega_4^2v_3^2\omega_3^3+12\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4^3cs^2\omega_3^3+48\omega_7^2\omega_4^2cs^2\omega_3^2+48\omega_7^2v_3^2\omega_3^3-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^3+6\omega_4^3v_3^2\omega_3^3+6\omega_4^3cs^2\omega_3^3-12\omega_7\omega_4v_3^2\omega_3^3-12\omega_7^2cs^2\omega_3^3+24\omega_7^2\omega_4^2v_3^2\omega_3-12\omega_7^2\omega_4^3cs^2\omega_3^2+36\omega_7\omega_4^2cs^2\omega_3^3-5\omega_7^2\omega_4^3v_3^2\omega_3^3-24\omega_7\omega_4^2v_3^2\omega_3^2+4\omega_7^2\omega_4^3cs^2\omega_3^3-24\omega_7\omega_4^2cs^2\omega_3^2+24\omega_7^2\omega_4^3v_3^2\omega_3^2+36\omega_7\omega_4^2v_3^2\omega_3^3+48\omega_7^2\omega_4v_3^2\omega_3^2-30\omega_7^2\omega_4^3v_3^2\omega_3-12\omega_4^2cs^2\omega_3^3+36\omega_7^2\omega_4cs^2\omega_3^3-12\omega_4^2v_3^2\omega_3^3-90\omega_7^2\omega_4v_3^2\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3-24\omega_7^2\omega_4cs^2\omega_3^2$$

$$C_{62}=-24\omega_7\omega_4^2cs^2\omega_2^2+4\omega_7^2\omega_4^3cs^2\omega_2^2+36\omega_7\omega_4^2v_3^2\omega_2^2+24\omega_7^2\omega_4^3v_3^2\omega_2^2+36\omega_7\omega_4^2cs^2\omega_2^2+12\omega_7^2\omega_4^3v_3^2-12\omega_7^2\omega_4^3cs^2\omega_2^2-24\omega_7\omega_4^2v_3^2\omega_2^2-5\omega_7^2\omega_4^3v_2^2\omega_2^3-90\omega_7^2\omega_4v_3^2\omega_2^3-12\omega_4^2v_3^2\omega_2^3+6\omega_7^2\omega_4^3cs^2\omega_2-24\omega_7^2\omega_4cs^2\omega_2^2+48\omega_7^2\omega_4v_3^2\omega_2^2-30\omega_7^2\omega_4^3v_3^2\omega_2+36\omega_7^2\omega_4cs^2\omega_2^3-12\omega_4^2cs^2\omega_2^3+40\omega_7^2\omega_4^2v_3^2\omega_2^3+12\omega_7\omega_4^3v_3^2\omega_2^2+48\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^3-60\omega_7^2\omega_4^2v_3^2\omega_2^2-12\omega_7\omega_4^3v_3^2\omega_2^3-32\omega_7^2\omega_4^2cs^2\omega_2^3+12\omega_7\omega_4^3cs^2\omega_2^2+6\omega_4^3cs^2\omega_2^3-12\omega_7\omega_4v_3^2\omega_2^3+24\omega_7^2\omega_4^2v_3^2\omega_2-12\omega_7^2cs^2\omega_2^3-12\omega_7^2\omega_4^2cs^2\omega_2+48\omega_7^2v_3^2\omega_2^3-12\omega_7\omega_4cs^2\omega_2^3+6\omega_4^3v_3^2\omega_2^3$$

$$C_{63}=12\omega_4^3\omega_2^3+12\omega_4^2\omega_2^2\omega_3^2+12\omega_2^3\omega_3^3-30\omega_4^2\omega_2^2\omega_3^3+6\omega_4^2\omega_3^3\omega_3+18\omega_4^3\omega_2\omega_3^2-30\omega_4^2\omega_2^3\omega_3^2+28\omega_4^2\omega_2^3\omega_3^3-30\omega_4^3\omega_2\omega_3^3+18\omega_4\omega_2^3\omega_3^2-30\omega_4^3\omega_2^3\omega_3+24\omega_4^3\omega_2^2\omega_3^3-42\omega_4^3\omega_2^2\omega_3^2+12\omega_4^3\omega_3^3-36\omega_4\omega_2^3\omega_3^3+18\omega_4^3\omega_2^2\omega_3-5\omega_4^3\omega_2^3\omega_3^3+6\omega_4^2\omega_2\omega_3^3+18\omega_4\omega_2^2\omega_3^3+24\omega_4^3\omega_2^3\omega_3^2$$

$$C_{64}=10\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3^2+10\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3-4\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^2+20\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2-2\omega_7^2\omega_4^3cs^4\omega_6\omega_3^2+2\omega_7^2\omega_4^3v_3^2v_2^2\omega_3^2+20\omega_7^2\omega_4v_3^2v_2^2\omega_6^2\omega_3^2+20\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^2cs^2v_2^2\omega_6\omega_3^3+2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3-2\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2+4\omega_7^2\omega_4cs^4\omega_6^2\omega_3^2-38\omega_7^2\omega_4v_3^2v_2^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^3v_3^2v_2^2\omega_3^2+\omega_7^2\omega_4^3cs^4\omega_6\omega_3^3+\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3-3\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3^3-4\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4cs^4\omega_6^2\omega_3^3+\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2+4\omega_7^2\omega_4^2cs^4\omega_6\omega_3^3-4\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^3+36\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^3cs^2v_3^2\omega_6^3-4\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2-4\omega_7\omega_4v_3^2v_2^2\omega_6^2\omega_3^3-3\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^2cs^4\omega_6\omega_3^3-4\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^2+20\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3-4\omega_7\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^2+\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3+2\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^3-4\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3-4\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3-8\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2-4\omega_7^2cs^2v_2^2\omega_6^2\omega_3^3+10\omega_7\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3-12\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2+2\omega_7\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2-4\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3^3+10\omega_7\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3+20\omega_7^2v_3^2v_2^2\omega_6^2\omega_3^3-38\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3+10\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^2-8\omega_7^2\omega_4cs^2v_3^2\omega_6^2\omega_3^2-2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3-4\omega_7\omega_4cs^2v_2^2\omega_6^2\omega_3^3+12\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2-8\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^3-3\omega_7\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^3+4\omega_7\omega_4^2cs^4\omega_6^2\omega_3^2+4\omega_7^2\omega_4cs^2v_3^2\omega_6^2\omega_3^3-3\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^3-4\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^3-\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+10\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3-4\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3+\omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^3-3\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^3+4\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^2+12\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3-4\omega_7^2\omega_4^2v_3^2v_2^2\omega_6\omega_3^2-2\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3-2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^2+20\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3-2\omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^2-4\omega_7^2\omega_4cs^2v_2^2\omega_6^2\omega_3^2+4\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^2+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3+\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3+2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^2v_3^2v_2^2\omega_6\omega_3^3-8\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3$$

$$C_{65}=-6\omega_7\omega_4^3v_3^2\omega_3^3-48\omega_7^2\omega_4^2v_3^2\omega_3^2-14\omega_7^2\omega_4^2cs^2\omega_3^3+34\omega_7^2\omega_4^2v_3^2\omega_3^3+12\omega_7^2\omega_4^3v_3^2-6\omega_7\omega_4^3cs^2\omega_3^3+12\omega_7^2\omega_4^2cs^2\omega_3^3+48\omega_7^2v_3^2\omega_3^3-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^3+6\omega_4^3v_3^2\omega_3^3+6\omega_4^3cs^2\omega_3^3-12\omega_7\omega_4v_3^2\omega_3^3-12\omega_7^2cs^2\omega_3^3+24\omega_7^2\omega_4^2v_3^2\omega_3-6\omega_7^2\omega_4^3cs^2\omega_3^2+24\omega_7\omega_4^2cs^2\omega_3^3-4\omega_7^2\omega_4^3v_3^2\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_3^3+22\omega_7^2\omega_4^3v_3^2\omega_3^2+24\omega_7\omega_4^2v_3^2\omega_3^3+24\omega_7^2\omega_4v_3^2\omega_3^2-30\omega_7^2\omega_4^3v_3^2\omega_3-12\omega_4^2cs^2\omega_3^3+24\omega_7^2\omega_4cs^2\omega_3^3-12\omega_4^2v_3^2\omega_3^3-78\omega_7^2\omega_4v_3^2\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3$$

$$C_{66}=-4\omega_4^3v_2^2\omega_6^2\omega_3^3+\omega_4^3cs^2\omega_6^2\omega_3^3+24\omega_4^2v_2^2\omega_6^2\omega_3-14\omega_4^3cs^2\omega_6^2\omega_3^2+34\omega_4^3v_2^2\omega_6^2\omega_3^2-78\omega_4^3v_2^2\omega_6^2\omega_3+24\omega_4^3cs^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_3^2-12\omega_4^3v_2^2\omega_3^2-48\omega_4^2v_2^2\omega_6^2\omega_3^2+12\omega_4^2cs^2\omega_6^2\omega_3^2+48\omega_4^3v_2^2\omega_6^2-12\omega_4^3cs^2\omega_6^2+6\omega_4^3v_2^2\omega_3^3+6\omega_4^3cs^2\omega_3^3-6\omega_4^2cs^2\omega_6^2\omega_3^3+22\omega_4^2v_2^2\omega_6^2\omega_3^3-12\omega_4^3v_2^2\omega_6\omega_3-12\omega_4^3cs^2\omega_6\omega_3-12\omega_4cs^2\omega_6^2\omega_3^2+24\omega_4v_2^2\omega_6^2\omega_3^2+24\omega_4^3cs^2\omega_6\omega_3^2+24\omega_4^3v_2^2\omega_6\omega_3^2+12v_2^2\omega_6^2\omega_3^3-30\omega_4v_2^2\omega_6^2\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3-6\omega_4^3v_2^2\omega_6\omega_3^3-6\omega_4^3cs^2\omega_6\omega_3^3$$

$$C_{67}=36\omega_7\omega_4^2+12\omega_4^2cs^2-48\omega_7^2\omega_4cs^2+6\omega_4^3-3\omega_7^2\omega_4^3v_2^3-9\omega_7\omega_4^3-36\omega_7\omega_4^2cs^2-12\omega_4^2+12\omega_7^2v_2^3+48\omega_7\omega_4v_2^3-6\omega_4^3cs^2+9\omega_7\omega_4^3cs^2-24\omega_7\omega_4+27\omega_7^2\omega_4^2v_2^3+12\omega_7^2\omega_4+12\omega_4^2v_2^3-42\omega_7^2\omega_4v_2^3-60\omega_7\omega_4^2v_2^3-2\omega_7^2\omega_4^3cs^2-6\omega_4^3v_2^3+24\omega_7\omega_4cs^2+\omega_7^2\omega_4^3+24\omega_7^2cs^2+25\omega_7^2\omega_4^2cs^2-11\omega_7^2\omega_4^2+15\omega_7\omega_4^3v_2^3$$

$$C_{68}=-3\omega_7\omega_4^3\omega_2^2-3\omega_4^3\omega_2^3-12\omega_7\omega_4^2cs^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2^3+42\omega_7\omega_4^2v_3^2\omega_2^3+6\omega_7^2\omega_4^3v_3^2\omega_2^2+42\omega_7\omega_4^2cs^2\omega_2^2+6\omega_7^2\omega_4^3v_3^2-12\omega_7^2\omega_4^3cs^2\omega_2^2+6\omega_7\omega_4^3\omega_2^3-12\omega_7\omega_4^2v_3^2\omega_2^3-30\omega_7^2\omega_4v_3^2\omega_2^3-12\omega_4^2v_3^2\omega_2^3+6\omega_7^2\omega_4^3cs^2\omega_2+6\omega_7\omega_4^2\omega_2^2+6\omega_4^2\omega_2^3-24\omega_7^2\omega_4cs^2\omega_2^2-6\omega_7^2\omega_4\omega_2^3+12\omega_7^2\omega_4v_3^2\omega_2^2-12\omega_7^2\omega_4^3v_3^2\omega_2+78\omega_7^2\omega_4cs^2\omega_2^3-12\omega_4^2cs^2\omega_2^3-21\omega_7\omega_4^2\omega_2^3+6\omega_7^2\omega_4^2v_3^2\omega_2^2+6\omega_7\omega_4^3v_3^2\omega_2^2+12\omega_7\omega_4\omega_2^3+42\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^2-3\omega_7^2\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2v_3^2\omega_2^2-12\omega_7\omega_4^3v_3^2\omega_2^2+7\omega_7^2\omega_4^2\omega_2^3-48\omega_7^2\omega_4^2cs^2\omega_2^2+6\omega_7\omega_4^3cs^2\omega_2^2+6\omega_4^3cs^2\omega_2^2+\omega_7^2\omega_4^3\omega_2^2-24\omega_7\omega_4\omega_2^2\omega_3^2+6\omega_7^2\omega_4^2v_3^2\omega_2-36\omega_7^2cs^2\omega_2^2-\omega_7^2\omega_4^3\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2+24\omega_7^2v_3^2\omega_2^2-24\omega_7\omega_4cs^2\omega_2^2+6\omega_4^2v_3^2\omega_2^2$$

$$C_{69}=-36\omega_7\omega_4^2-12\omega_4^2cs^2+90\omega_7^2\omega_4cs^2-6\omega_4^3+\omega_7^2\omega_4^3v_2^3+9\omega_7\omega_4^3+48\omega_7\omega_4^2cs^2+12\omega_4^2+12\omega_7^2v_2^3-36\omega_7\omega_4v_2^3+6\omega_4^3cs^2-12\omega_7\omega_4^3cs^2+24\omega_7\omega_4-8\omega_7^2\omega_4^2v_2^3-12\omega_7^2\omega_4-12\omega_4^2v_2^3+48\omega_7\omega_4^2v_2^3+4\omega_7^2\omega_4^3cs^2+6\omega_4^3v_2^3-36\omega_7\omega_4cs^2-\omega_7^2\omega_4^3-48\omega_7^2cs^2-44\omega_7^2\omega_4^2cs^2+11\omega_7^2\omega_4^2-12\omega_7\omega_4^3v_2^3$$

$$C_{70}=-6\omega_7\omega_4^3\omega_2^2-24\omega_7\omega_4^2cs^2\omega_2^2+4\omega_7^2\omega_4^3cs^2\omega_2^2+36\omega_7\omega_4^2v_2^3\omega_2^2+36\omega_7\omega_4^2cs^2\omega_2^2+12\omega_7^2\omega_4^3v_2^3-12\omega_7^2\omega_4^3cs^2\omega_2^2+3\omega_7\omega_4^3\omega_2^2-24\omega_7\omega_4^2v_2^3\omega_2^2+3\omega_7^2\omega_4^3v_2^3\omega_2^2-30\omega_7^2\omega_4v_2^3\omega_2^2-12\omega_4^2v_2^3\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2+12\omega_7\omega_4^2\omega_2^2-24\omega_7^2\omega_4cs^2\omega_2^2-18\omega_7^2\omega_4^2v_2^3\omega_2+36\omega_7^2\omega_4cs^2\omega_2^2-12\omega_4^2cs^2\omega_2^2-6\omega_7\omega_4^2\omega_2^2+12\omega_7\omega_4^2v_2^3\omega_2^2+48\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^2-6\omega_7^2\omega_4^2\omega_2^2+12\omega_7^2\omega_4^2v_2^3\omega_2^2-12\omega_7\omega_4^2v_2^3\omega_2^2+3\omega_7^2\omega_4^2\omega_2^2-32\omega_7^2\omega_4^2cs^2\omega_2^2+12\omega_7\omega_4^3cs^2\omega_2^2+6\omega_4^3cs^2\omega_2^2+2\omega_7^2\omega_4^3\omega_2^2-12\omega_7\omega_4v_2^3\omega_2^2-12\omega_7^2cs^2\omega_2^2-\omega_7^2\omega_4^3\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2+24\omega_7^2v_2^3\omega_2^2-12\omega_7\omega_4cs^2\omega_2^2+6\omega_4^3v_2^3\omega_2^2$$

$$C_{71}=-12\omega_7\omega_4^3v_2^2\omega_3^3-12\omega_7^2\omega_4^2v_2^3\omega_3^2+6\omega_7\omega_4^3cs^2\omega_3^2-48\omega_7^2\omega_4^2cs^2\omega_3^3+7\omega_7^2\omega_4^2\omega_3^3+6\omega_7\omega_4^3v_2^3\omega_3^2+6\omega_7^2\omega_4^2v_2^3\omega_3^3+6\omega_7^2\omega_4^3v_2^3-3\omega_7^2\omega_4^2\omega_3^2-12\omega_7\omega_4^3cs^2\omega_3^3+42\omega_7^2\omega_4^2cs^2\omega_3^2+12\omega_7\omega_4\omega_3^3+24\omega_7^2v_2^3\omega_3^3-12\omega_7^2\omega_4^2cs^2\omega_3-\omega_7^2\omega_4^3\omega_3^3-24\omega_7\omega_4cs^2\omega_3^3+6\omega_4^3v_2^3\omega_3^3+6\omega_4^3cs^2\omega_3^3+\omega_7^2\omega_4^3\omega_3^2-24\omega_7\omega_4v_2^3\omega_3^3-36\omega_7^2cs^2\omega_3^3+6\omega_7^2\omega_4^2v_2^3\omega_3-12\omega_7^2\omega_4^3cs^2\omega_3^2+42\omega_7^2\omega_4^2cs^2\omega_3^3+6\omega_7\omega_4^3\omega_3^3-12\omega_7\omega_4^2v_2^3\omega_3^2-3\omega_4^3\omega_3^3-3\omega_7\omega_4^3\omega_3^2+6\omega_7^2\omega_4^3cs^2\omega_3^2-12\omega_7\omega_4^2cs^2\omega_3^2+6\omega_7^2\omega_4^3v_2^3\omega_3^2+42\omega_7\omega_4^2v_2^3\omega_3^2+12\omega_7^2\omega_4v_2^3\omega_3^2-12\omega_7^2\omega_4^3v_2^3\omega_3-21\omega_7\omega_4^2\omega_3^3-12\omega_4^2cs^2\omega_3^3+78\omega_7^2\omega_4cs^2\omega_3^3-12\omega_4^2v_2^3\omega_3^3-30\omega_7^2\omega_4v_2^3\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3+6\omega_4^2\omega_3^3-6\omega_7^2\omega_4\omega_3^3-24\omega_7^2\omega_4cs^2\omega_3^2+6\omega_7\omega_4^2\omega_3^2$$

$$C_{72}=-36\omega_7\omega_4^2-12\omega_4^2cs^2+90\omega_7^2\omega_4cs^2-6\omega_4^3+\omega_7^2\omega_4^3v_2^3+9\omega_7\omega_4^3+48\omega_7\omega_4^2cs^2+12\omega_4^2+12\omega_7^2v_2^3-36\omega_7\omega_4v_2^3+6\omega_4^3cs^2-12\omega_7\omega_4^3cs^2+24\omega_7\omega_4-8\omega_7^2\omega_4^2v_2^3-12\omega_7^2\omega_4-12\omega_4^2v_2^3+48\omega_7\omega_4^2v_2^3+4\omega_7^2\omega_4^3cs^2+6\omega_4^3v_2^3-36\omega_7\omega_4cs^2-\omega_7^2\omega_4^3-48\omega_7^2cs^2-44\omega_7^2\omega_4^2cs^2+11\omega_7^2\omega_4^2-12\omega_7\omega_4^3v_2^3$$

$C_{73} = -12\omega_7\omega_4^3v_3^2\omega_3^3 + 12\omega_7^2\omega_4^2v_3^2\omega_3^2 + 12\omega_7\omega_4^3cs^2\omega_3^2 - 32\omega_7^2\omega_4^2cs^2\omega_3^3 + 3\omega_7^2\omega_4^2\omega_3^3 + 12\omega_7\omega_4^3v_3^2\omega_3^2 + 12\omega_7^2\omega_4^3v_3^2 - 6\omega_7^2\omega_4^2\omega_3^2 - 12\omega_7\omega_4^3cs^2\omega_3^3 + 48\omega_7^2\omega_4^2cs^2\omega_3^2 + 24\omega_7^2v_3^2\omega_3^3 - 12\omega_7^2\omega_4^2cs^2\omega_3 - \omega_7^2\omega_4^3\omega_3^3 - 12\omega_7\omega_4cs^2\omega_3^3 + 6\omega_4^3v_3^2\omega_3^3 + 6\omega_4^3cs^2\omega_3^3 + 2\omega_7^2\omega_4^3\omega_3^2 - 12\omega_7\omega_4v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^2 + 36\omega_7\omega_4^2cs^2\omega_3^3 + 3\omega_7\omega_4^3\omega_3^3 + 3\omega_7^2\omega_4^3v_3^2\omega_3^3 - 24\omega_7\omega_4^2v_3^2\omega_3^2 - 6\omega_7\omega_4^3\omega_3^2 + 4\omega_7^2\omega_4^3cs^2\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^2 + 36\omega_7\omega_4^2v_3^2\omega_3^3 - 18\omega_7^2\omega_4^3v_3^2\omega_3 - 6\omega_7\omega_4^2\omega_3^3 - 12\omega_4^2cs^2\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 - 12\omega_4^2v_3^2\omega_3^3 - 30\omega_7^2\omega_4v_3^2\omega_3^3 + 6\omega_7^2\omega_4^3cs^2\omega_3 - 24\omega_7^2\omega_4cs^2\omega_3^2 + 12\omega_7\omega_4^2\omega_3^2$

$C_{74} = 24\omega_7^2cs^4 + 12\omega_4^3cs^2v_3^2 + 12\omega_7^2\omega_4cs^2 + 12\omega_4^3v_3^4 - 96\omega_7^2cs^2v_3^2 + 24\omega_7\omega_4cs^4 - 3\omega_7^2\omega_4^3v_3^2 + 24\omega_7\omega_4^2cs^2 - 24\omega_7\omega_4cs^2v_3^2 + 24\omega_7^2\omega_4^2cs^4 - 18\omega_7\omega_4^3v_3^4 + 24\omega_7^2\omega_4v_3^4 - 24\omega_4^2v_3^4 - 12\omega_7\omega_4^3cs^2v_3^2 + 48\omega_7\omega_4v_3^2 + 72\omega_7\omega_4^2v_3^4 - 3\omega_7^2\omega_4^3cs^4 - 6\omega_7\omega_4^3cs^2 - 72\omega_7^2\omega_4^2cs^2v_3^2 + 24\omega_7^2\omega_4^2v_3^2 - 48\omega_7\omega_4v_3^4 + 24\omega_4^2v_3^2 - 24\omega_7^2\omega_4v_3^2 + 6\omega_7\omega_4^3cs^4 - 24\omega_7^2\omega_4^2v_3^4 - 72\omega_7\omega_4^2v_3^2 - 24\omega_4^2cs^2v_3^2 + 156\omega_7^2\omega_4cs^2v_3^2 + \omega_7^2\omega_4^3cs^2 - 12\omega_4^3v_3^2 - 24\omega_7\omega_4cs^2 + 6\omega_7^2\omega_4^3cs^2v_3^2 - 48\omega_7^2\omega_4cs^4 - 8\omega_7^2\omega_4^2cs^2 + 48\omega_7^2\omega_4^2cs^2v_3^2 + 18\omega_7\omega_4^3v_3^2 + 3\omega_7^2\omega_4^3v_3^4 - 24\omega_7\omega_4^2cs^4$

$C_{75} = -24\omega_7\omega_4^2 - 12\omega_4^2cs^2 + 42\omega_7^2\omega_4cs^2 - 6\omega_4^3 + 2\omega_7^2\omega_4^3v_3^2 + 6\omega_7\omega_4^3 + 24\omega_7\omega_4^2cs^2 + 12\omega_4^2 - 12\omega_7^2v_3^2 - 12\omega_7\omega_4v_3^2 + 6\omega_4^3cs^2 - 6\omega_7\omega_4^3cs^2 + 12\omega_7\omega_4 - 16\omega_7^2\omega_4^2v_3^2 - 6\omega_7^2\omega_4 - 12\omega_4^2v_3^2 + 24\omega_7^2\omega_4v_3^2 + 24\omega_7\omega_4^2v_3^2 + \omega_7^2\omega_4^3cs^2 + 6\omega_4^3v_3^2 - 12\omega_7\omega_4cs^2 - \omega_7^2\omega_4^3 - 24\omega_7^2cs^2 - 20\omega_7^2\omega_4^2cs^2 + 8\omega_7^2\omega_4^2 - 6\omega_7\omega_4^3v_3^2$

2.4 CLBM1

2.4.1 Definitions

Collision operator $\boldsymbol{C}$:

$$\boldsymbol{C}\left(\boldsymbol{f}\right) = \mathbf{K}^{-1}\mathbf{S}\left(\boldsymbol{\kappa}^{(eq)} - \mathbf{K}\boldsymbol{f}\right),$$

where

$$\mathbf{S} = \mathrm{diag}(\omega_1, \omega_2, \omega_3, \omega_4, \omega_5, \omega_6, \omega_7),$$

$\omega_1, \omega_2, \ldots, \omega_7 \in (0, 2)$.
Matrix $\mathbf{K}$ corresponds to the transformation matrix to the central moment basis defined as

$$\boldsymbol{\kappa} = \left(k_{(0,0,0)}, k_{(1,0,0)}, k_{(0,1,0)}, k_{(0,0,1)}, k_{(2,0,0)}, k_{(0,2,0)}, k_{(0,0,2)}\right)^T,$$

and is given by

$$\mathbf{K} = \begin{pmatrix} 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ -v_1 & 1-v_1 & -v_1 & -v_1 & -v_1-1 & -v_1 & -v_1 \\ -v_2 & -v_2 & 1-v_2 & -v_2 & -v_2 & -v_2-1 & -v_2 \\ -v_3 & -v_3 & -v_3 & 1-v_3 & -v_3 & -v_3 & -v_3-1 \\ v_1^2 & (1-v_1)^2 & v_1^2 & v_1^2 & (v_1+1)^2 & v_1^2 & v_1^2 \\ v_2^2 & v_2^2 & (1-v_2)^2 & v_2^2 & v_2^2 & (v_2+1)^2 & v_2^2 \\ v_3^2 & v_3^2 & v_3^2 & (1-v_3)^2 & v_3^2 & v_3^2 & (v_3+1)^2 \end{pmatrix}.$$

The equilibrium central moments are defined by

$$\boldsymbol{\kappa}^{(eq)} = \mathbf{K}\mathbf{M}^{-1}\boldsymbol{\mu}^{(eq)},$$

i.e.,

$$\boldsymbol{\kappa}^{(eq)} = \left(\rho, 0, 0, 0, \rho c_s^2, \rho c_s^2, \rho c_s^2\right)^T.$$

2.4.2 Conservation of mass equation

attached text file: `output_d3q7_ade_clbm1_symbolic_pde_00.txt`

$\frac{\partial \rho}{\partial t} + \frac{v_1\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_1} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_1}{\partial x_1} + \frac{v_2\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_2} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_2}{\partial x_2} + \frac{v_3\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_3} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_3}{\partial x_3} + (-2+\omega_2)\frac{\delta_l}{2\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} +$
$(-2+\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1} + (-2+\omega_2)\frac{\rho\delta_l^2}{2\omega_2\delta_t}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + (2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + (-\omega_2\omega_3+\omega_2+\omega_3)\frac{v_1\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} +$

$$(-\omega_2\omega_3+\omega_2+\omega_3)\frac{\rho\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2}+(2-\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3}+(\omega_4+\omega_2-\omega_4\omega_2)\frac{v_1\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3}+$$
$$(\omega_4+\omega_2-\omega_4\omega_2)\frac{\rho\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3}+(-2+\omega_3)\frac{\delta_l}{2\omega_3}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t}+(-\omega_2\omega_3+\omega_2+\omega_3)\frac{v_2\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1}+$$
$$(2-\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1}+(-2+\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2}+(-2+\omega_3)\frac{\rho\delta_l^2}{2\omega_3\delta_t}\left(\frac{\partial v_2}{\partial x_2}\right)^2+(2-\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3}+$$
$$(\omega_4+\omega_3-\omega_4\omega_3)\frac{v_2\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3}+(\omega_4+\omega_3-\omega_4\omega_3)\frac{\rho\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3}+(-2+\omega_4)\frac{\delta_l}{2\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t}+$$
$$(\omega_4+\omega_2-\omega_4\omega_2)\frac{v_3\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1}+(2-\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1}+(\omega_4+\omega_3-\omega_4\omega_3)\frac{v_3\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2}+(2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2}$$
$$+(-2+\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3}+(-2+\omega_4)\frac{\rho\delta_l^2}{2\omega_4\delta_t}\left(\frac{\partial v_3}{\partial x_3}\right)^2+(-2+\omega_2)\frac{\rho\delta_l}{2\omega_2}\frac{\partial^2 v_1}{\partial t\partial x_1}+(-2+\omega_2)\frac{cs^2\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 \rho}{\partial x_1^2}+$$
$$(-2+\omega_2)\frac{\rho v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_1}{\partial x_1^2}+(-2+\omega_3)\frac{\rho\delta_l}{2\omega_3}\frac{\partial^2 v_2}{\partial t\partial x_2}+(-\omega_2\omega_3+\omega_2+\omega_3)\frac{v_2v_1\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_1\partial x_2}+(2-\omega_3)\frac{\rho v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_1}{\partial x_1\partial x_2}+$$
$$(2-\omega_2)\frac{\rho v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_2}{\partial x_1\partial x_2}+(-2+\omega_3)\frac{cs^2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_2^2}+(-2+\omega_3)\frac{\rho v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_2}{\partial x_2^2}+(-2+\omega_4)\frac{\rho\delta_l}{2\omega_4}\frac{\partial^2 v_3}{\partial t\partial x_3}+$$
$$(\omega_4+\omega_2-\omega_4\omega_2)\frac{v_1v_3\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial^2 \rho}{\partial x_1\partial x_3}+(2-\omega_4)\frac{\rho v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_1}{\partial x_1\partial x_3}+(2-\omega_2)\frac{\rho v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_3}{\partial x_1\partial x_3}+(\omega_4+\omega_3-\omega_4\omega_3)\frac{v_2v_3\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_2\partial x_3}$$
$$+(2-\omega_4)\frac{\rho v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_2}{\partial x_2\partial x_3}+(2-\omega_3)\frac{\rho v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_3}{\partial x_2\partial x_3}+(-2+\omega_4)\frac{cs^2\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 \rho}{\partial x_3^2}+(-2+\omega_4)\frac{\rho v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_3}{\partial x_3^2}+$$
$$(12+\omega_2^2-12\omega_2)\frac{\rho\delta_l\delta_t}{12\omega_2^2}\frac{\partial^3 v_1}{\partial t^2\partial x_1}+(12+\omega_2^2-12\omega_2)\frac{\rho v_1\delta_l^2}{6\omega_2^2}\frac{\partial^3 v_1}{\partial t\partial x_1^2}+C_1\frac{v_1\delta_l^3}{6\omega_5\omega_2\delta_t}\frac{\partial^3 \rho}{\partial x_1^3}+C_2\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^3}+$$
$$(12+\omega_3^2-12\omega_3)\frac{\rho\delta_l\delta_t}{12\omega_3^2}\frac{\partial^3 v_2}{\partial t^2\partial x_2}+(-2\omega_2\omega_3^2+3\omega_3^2+9\omega_2\omega_3-6\omega_2-6\omega_3)\frac{\rho v_2\delta_l^2}{6\omega_2\omega_3^2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_2}+$$
$$(3\omega_2^2+9\omega_2\omega_3-6\omega_2-2\omega_2^2\omega_3-6\omega_3)\frac{\rho v_1\delta_l^2}{6\omega_2^2\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_1\partial x_2}+C_3\frac{v_2\delta_l^3}{2\omega_5\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_1^2\partial x_2}+$$
$$(-6\omega_2\omega_3^2+6\omega_3^2+6\omega_2^2-6\omega_2^2\omega_3+\omega_2^2\omega_3^2)\frac{\rho v_2v_1\delta_l^3}{6\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^2\partial x_2}+$$
$$(v_1^2\omega_5\omega_2^2-3cs^2\omega_5\omega_2^2+6v_1^2\omega_5\omega_2+18cs^2\omega_5\omega_2-6v_1^2\omega_2^2+6cs^2\omega_2^2-12cs^2\omega_5-12v_1^2\omega_5+12v_1^2\omega_2-12cs^2\omega_2)\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_2}{\partial x_1^2\partial x_2}$$
$$+(12+\omega_3^2-12\omega_3)\frac{\rho v_2\delta_l^2}{6\omega_3^2}\frac{\partial^3 v_2}{\partial t\partial x_2^2}+C_4\frac{v_1\delta_l^3}{2\omega_2^2\omega_6\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_1\partial x_2^2}+(-3cs^2\omega_6\omega_3^2-12v_2^2\omega_6-12cs^2\omega_6+18cs^2\omega_6\omega_3+$$
$$v_2^2\omega_6\omega_3^2-12cs^2\omega_3-6v_2^2\omega_3^2+12v_2^2\omega_3+6cs^2\omega_3^2+6v_2^2\omega_6\omega_3)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2^2}+$$
$$(-6\omega_2\omega_3^2+6\omega_3^2+6\omega_2^2-6\omega_2^2\omega_3+\omega_2^2\omega_3^2)\frac{\rho v_2v_1\delta_l^3}{6\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_1\partial x_2^2}+C_5\frac{v_2\delta_l^3}{6\omega_6\omega_3\delta_t}\frac{\partial^3 \rho}{\partial x_2^3}+C_6\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^3}+$$
$$(12-12\omega_4+\omega_4^2)\frac{\rho\delta_l\delta_t}{12\omega_4^2}\frac{\partial^3 v_3}{\partial t^2\partial x_3}+(-6\omega_4-2\omega_4^2\omega_2-6\omega_2+3\omega_4^2+9\omega_4\omega_2)\frac{\rho v_3\delta_l^2}{6\omega_4^2\omega_2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_3}+$$
$$(-6\omega_4+3\omega_2^2-6\omega_2+9\omega_4\omega_2-2\omega_4\omega_2^2)\frac{\rho v_1\delta_l^2}{6\omega_4\omega_2^2}\frac{\partial^3 v_3}{\partial t\partial x_1\partial x_3}+C_7\frac{v_3\delta_l^3}{2\omega_4^2\omega_5\omega_2^2\delta_t}\frac{\partial^3 \rho}{\partial x_1^2\partial x_3}+$$
$$(\omega_4^2\omega_2^2-6\omega_4^2\omega_2+6\omega_2^2+6\omega_4^2-6\omega_4\omega_2^2)\frac{\rho v_1v_3\delta_l^3}{6\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^2\partial x_3}+$$
$$(v_1^2\omega_5\omega_2^2-3cs^2\omega_5\omega_2^2+6v_1^2\omega_5\omega_2+18cs^2\omega_5\omega_2-6v_1^2\omega_2^2+6cs^2\omega_2^2-12cs^2\omega_5-12v_1^2\omega_5+12v_1^2\omega_2-12cs^2\omega_2)\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_3}{\partial x_1^2\partial x_3}$$
$$+(-6\omega_4-2\omega_4^2\omega_3+3\omega_4^2-6\omega_3+9\omega_4\omega_3)\frac{\rho v_3\delta_l^2}{6\omega_4^2\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_2\partial x_3}+(-6\omega_4+3\omega_3^2-2\omega_4\omega_3^2-6\omega_3+9\omega_4\omega_3)\frac{\rho v_2\delta_l^2}{6\omega_4\omega_3^2}\frac{\partial^3 v_3}{\partial t\partial x_2\partial x_3}+$$
$$(\omega_4^2\omega_2\omega_3+\omega_4^2\omega_2^2+\omega_4\omega_2^2\omega_3+\omega_4^2\omega_3^2-2\omega_4\omega_2^2\omega_3^2-2\omega_4^2\omega_2\omega_3^2+\omega_4^2\omega_2^2\omega_3^2+\omega_4\omega_2\omega_3^2+\omega_2^2\omega_3^2-2\omega_4^2\omega_2^2\omega_3)\frac{2v_2v_1v_3\delta_l^3}{\omega_4^2\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_1\partial x_2\partial x_3}$$
$$+(-6\omega_4^2\omega_3+3\omega_3^2+2\omega_4^2\omega_3^2+3\omega_4^2-6\omega_4\omega_3^2+6\omega_4\omega_3)\frac{\rho v_2v_3\delta_l^3}{3\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2\partial x_3}+$$
$$(2\omega_4^2\omega_2^2-6\omega_4^2\omega_2+3\omega_2^2+3\omega_4^2+6\omega_4\omega_2-6\omega_4\omega_2^2)\frac{\rho v_1v_3\delta_l^3}{3\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_2}{\partial x_1\partial x_2\partial x_3}+$$
$$(-6\omega_2\omega_3^2+3\omega_3^2+3\omega_2^2+6\omega_2\omega_3-6\omega_2^2\omega_3+2\omega_2^2\omega_3^2)\frac{\rho v_2v_1\delta_l^3}{3\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_2\partial x_3}+C_8\frac{v_3\delta_l^3}{2\omega_4^2\omega_6\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_2^2\partial x_3}+$$
$$(-6\omega_4^2\omega_3+6\omega_3^2+\omega_4^2\omega_3^2+6\omega_4^2-6\omega_4\omega_3^2)\frac{\rho v_2v_3\delta_l^3}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^2\partial x_3}+(-3cs^2\omega_6\omega_3^2-12v_2^2\omega_6-12cs^2\omega_6+18cs^2\omega_6\omega_3+$$
$$v_2^2\omega_6\omega_3^2-12cs^2\omega_3-6v_2^2\omega_3^2+12v_2^2\omega_3+6cs^2\omega_3^2+6v_2^2\omega_6\omega_3)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2^2\partial x_3}+(12-12\omega_4+\omega_4^2)\frac{\rho v_3\delta_l^2}{6\omega_4^2}\frac{\partial^3 v_3}{\partial t\partial x_3^2}+$$
$$C_9\frac{v_1\delta_l^3}{2\omega_7\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 \rho}{\partial x_1\partial x_3^2}+$$
$$(\omega_7\omega_4^2v_3^2+18\omega_7\omega_4cs^2-12\omega_7cs^2-12\omega_4cs^2-6\omega_4^2v_3^2+12\omega_4v_3^2+6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2+6\omega_7\omega_4v_3^2-12\omega_7v_3^2)\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_3^2}$$
$$+(\omega_4^2\omega_2^2-6\omega_4^2\omega_2+6\omega_2^2+6\omega_4^2-6\omega_4\omega_2^2)\frac{\rho v_1v_3\delta_l^3}{6\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_3^2}+C_{10}\frac{v_2\delta_l^3}{2\omega_7\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_2\partial x_3^2}+$$

$$
(\omega_7\omega_4^2v_3^2+18\omega_7\omega_4cs^2-12\omega_7cs^2-12\omega_4cs^2-6\omega_4^2v_3^2+12\omega_4v_3^2+6\omega_4^2cs^2-3\omega_7\omega_4^2cs^2+6\omega_7\omega_4v_3^2-12\omega_7v_3^2)\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3v_2}{\partial x_2\partial x_3^2}
$$
$$
+\ (-6\omega_4^2\omega_3+6\omega_3^2+\omega_4^2\omega_3^2+6\omega_4^2-6\omega_4\omega_3^2)\frac{\rho v_2v_3\delta_l^3}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3v_3}{\partial x_2\partial x_3^2}\ +\ C_{11}\frac{v_3\delta_l^3}{6\omega_7\omega_4\delta_t}\frac{\partial^3\rho}{\partial x_3^3}\ +\ C_{12}\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3v_3}{\partial x_3^3}\ +
$$
$$
(-2-\omega_2^2+3\omega_2)\frac{\rho\delta_l\delta_t^2}{2\omega_2^3}\frac{\partial^4v_1}{\partial t^3\partial x_1}\ +\ (-2-\omega_2^2+3\omega_2)\frac{3\rho v_1\delta_l^2\delta_t}{2\omega_2^3}\frac{\partial^4v_1}{\partial t^2\partial x_1^2}\ +\ C_{13}\frac{\rho\delta_l^3}{12\omega_5^2\omega_2^3}\frac{\partial^4v_1}{\partial t\partial x_1^3}\ +\ C_{14}\frac{\delta_l^4}{24\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^4}\ +
$$
$$
C_{15}\frac{\rho v_1\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_1}{\partial x_1^4}\ +\ (-2-\omega_3^2+3\omega_3)\frac{\rho\delta_l\delta_t^2}{2\omega_3^3}\frac{\partial^4v_2}{\partial t^3\partial x_2}\ +
$$
$$
(7\omega_2\omega_3^3-6\omega_3^3-24\omega_2\omega_3^2+12\omega_3^2+12\omega_2^2+12\omega_2\omega_3-24\omega_2^2\omega_3+13\omega_2^2\omega_3^2-\omega_2^2\omega_3^3)\frac{\rho v_2\delta_l^2\delta_t}{12\omega_2^2\omega_3^3}\frac{\partial^4v_1}{\partial t^2\partial x_1\partial x_2}\ +
$$
$$
(-24\omega_2\omega_3^2+12\omega_3^2+12\omega_2^2+12\omega_2\omega_3-6\omega_2^3-\omega_2^3\omega_3^2-24\omega_2^2\omega_3+13\omega_2^2\omega_3^2+7\omega_2^3\omega_3)\frac{\rho v_1\delta_l^2\delta_t}{12\omega_2^3\omega_3^2}\frac{\partial^4v_2}{\partial t^2\partial x_1\partial x_2}\ +
$$
$$
(18\omega_2\omega_3^3-12\omega_3^3-6\omega_2^3-7\omega_2^3\omega_3^2-6\omega_2^2\omega_3+\omega_2^3\omega_3^3+6\omega_2^2\omega_3^2+12\omega_2^3\omega_3-7\omega_2^2\omega_3^3)\frac{\rho v_2v_1\delta_l^3}{6\omega_2^3\omega_3^3}\frac{\partial^4v_1}{\partial t\partial x_1^2\partial x_2}\ +
$$
$$
C_{16}\frac{\rho\delta_l^3}{12\omega_5^2\omega_2^3\omega_3}\frac{\partial^4v_2}{\partial t\partial x_1^2\partial x_2}\ +\ C_{17}\frac{v_2v_1\delta_l^4}{6\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^3\partial x_2}\ +\ C_{18}\frac{\rho v_2\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1^3\partial x_2}\ +\ C_{19}\frac{\rho v_1\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_2}{\partial x_1^3\partial x_2}\ +
$$
$$
(-2-\omega_3^2+3\omega_3)\frac{3\rho v_2\delta_l^2\delta_t}{2\omega_3^3}\frac{\partial^4v_2}{\partial t^2\partial x_2^2}\ +\ C_{20}\frac{\rho\delta_l^3}{12\omega_2\omega_6^2\omega_3^3}\frac{\partial^4v_1}{\partial t\partial x_1\partial x_2^2}\ +
$$
$$
(12\omega_2\omega_3^3-6\omega_3^3-6\omega_2\omega_3^2-12\omega_2^3-7\omega_2^3\omega_3^2+\omega_2^3\omega_3^3+6\omega_2^2\omega_3^2+18\omega_2^3\omega_3-7\omega_2^2\omega_3^3)\frac{\rho v_2v_1\delta_l^3}{6\omega_2^3\omega_3^3}\frac{\partial^4v_2}{\partial t\partial x_1\partial x_2^2}\ +
$$
$$
C_{21}\frac{\delta_l^4}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2}\ +\ C_{22}\frac{\rho v_1\delta_l^4}{12\omega_5^2\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1^2\partial x_2^2}\ +\ C_{23}\frac{\rho v_2\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_1^2\partial x_2^2}\ +\ C_{24}\frac{\rho\delta_l^3}{12\omega_6^2\omega_3^3}\frac{\partial^4v_2}{\partial t\partial x_2^3}\ +
$$
$$
C_{25}\frac{v_2v_1\delta_l^4}{6\omega_3^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2^3}\ +\ C_{26}\frac{\rho v_2\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1\partial x_2^3}\ +\ C_{27}\frac{\rho v_1\delta_l^4}{12\omega_3^2\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_1\partial x_2^3}\ +\ C_{28}\frac{\delta_l^4}{24\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^4}\ +\ C_{29}\frac{\rho v_2\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_2^4}\ +
$$
$$
(-2+3\omega_4-\omega_4^2)\frac{\rho\delta_l\delta_t^2}{2\omega_4^3}\frac{\partial^4v_3}{\partial t^3\partial x_3}\ +
$$
$$
(7\omega_4^3\omega_2+13\omega_4^2\omega_2^2-24\omega_4^2\omega_2+12\omega_2^2-\omega_4^3\omega_2^2+12\omega_4^2+12\omega_4\omega_2-6\omega_4^3-24\omega_4\omega_2^2)\frac{\rho v_3\delta_l^2\delta_t}{12\omega_4^3\omega_2^2}\frac{\partial^4v_1}{\partial t^2\partial x_1\partial x_3}\ +
$$
$$
(-\omega_4^2\omega_2^3+13\omega_4^2\omega_2^2-24\omega_4^2\omega_2+12\omega_2^2-6\omega_2^3+12\omega_4^2+12\omega_4\omega_2-24\omega_4\omega_2^2+7\omega_4\omega_2^3)\frac{\rho v_1\delta_l^2\delta_t}{12\omega_4^2\omega_2^3}\frac{\partial^4v_3}{\partial t^2\partial x_1\partial x_3}\ +
$$
$$
(-7\omega_4^2\omega_2^3+18\omega_4^3\omega_2+6\omega_4^2\omega_2^2+\omega_4^3\omega_2^3-6\omega_2^3-7\omega_4^3\omega_2^2-12\omega_4^3-6\omega_4\omega_2^2+12\omega_4\omega_2^3)\frac{\rho v_1v_3\delta_l^3}{6\omega_4^3\omega_2^3}\frac{\partial^4v_1}{\partial t\partial x_1^2\partial x_3}\ +
$$
$$
C_{30}\frac{\rho\delta_l^3}{12\omega_4\omega_5^2\omega_2^3}\frac{\partial^4v_3}{\partial t\partial x_1^2\partial x_3}\ +\ C_{31}\frac{v_1v_3\delta_l^4}{6\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^3\partial x_3}\ +\ C_{32}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_1}{\partial x_1^3\partial x_3}\ +\ C_{33}\frac{\rho v_1\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_3}{\partial x_1^3\partial x_3}\ +
$$
$$
(-\omega_4^3\omega_3^2-24\omega_4^2\omega_3+12\omega_3^2+13\omega_4^2\omega_3^2+7\omega_4^3\omega_3+12\omega_4^2-24\omega_4\omega_3^2-6\omega_4^3+12\omega_4\omega_3)\frac{\rho v_3\delta_l^2\delta_t}{12\omega_4^3\omega_3^2}\frac{\partial^4v_2}{\partial t^2\partial x_2\partial x_3}\ +
$$
$$
(-6\omega_3^3-24\omega_4^2\omega_3+12\omega_3^2+13\omega_4^2\omega_3^2-\omega_4^2\omega_3^3+7\omega_4\omega_3^3+12\omega_4^2-24\omega_4\omega_3^2+12\omega_4\omega_3)\frac{\rho v_2\delta_l^2\delta_t}{12\omega_4^2\omega_3^3}\frac{\partial^4v_3}{\partial t^2\partial x_2\partial x_3}\ +
$$
$$
C_{34}\frac{\rho v_2v_3\delta_l^3}{6\omega_4^3\omega_2\omega_3^3}\frac{\partial^4v_1}{\partial t\partial x_1\partial x_2\partial x_3}\ +\ C_{35}\frac{\rho v_1v_3\delta_l^3}{6\omega_4^3\omega_2^3\omega_3}\frac{\partial^4v_2}{\partial t\partial x_1\partial x_2\partial x_3}\ +\ C_{36}\frac{\rho v_2v_1\delta_l^3}{6\omega_4\omega_2^3\omega_3^3}\frac{\partial^4v_3}{\partial t\partial x_1\partial x_2\partial x_3}\ +\ C_{37}\frac{v_2v_3\delta_l^4}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_2\partial x_3}\ +
$$
$$
C_{38}\frac{\rho v_2v_1v_3\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1^2\partial x_2\partial x_3}\ +\ C_{39}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_2}{\partial x_1^2\partial x_2\partial x_3}\ +\ C_{40}\frac{\rho v_2\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_1^2\partial x_2\partial x_3}\ +
$$
$$
(-6\omega_3^3-7\omega_4^3\omega_3^2+\omega_4^3\omega_3^3+6\omega_4^2\omega_3^2+18\omega_4^3\omega_3-7\omega_4^2\omega_3^3+12\omega_4\omega_3^3-6\omega_4\omega_3^2-12\omega_4^3)\frac{\rho v_2v_3\delta_l^3}{6\omega_4^3\omega_3^3}\frac{\partial^4v_2}{\partial t\partial x_2^2\partial x_3}\ +
$$
$$
C_{41}\frac{\rho\delta_l^3}{12\omega_4\omega_6^2\omega_3^3}\frac{\partial^4v_3}{\partial t\partial x_2^2\partial x_3}\ +\ C_{42}\frac{v_1v_3\delta_l^4}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2^2\partial x_3}\ +\ C_{43}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1\partial x_2^2\partial x_3}\ +\ C_{44}\frac{\rho v_2v_1v_3\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_1\partial x_2^2\partial x_3}\ +
$$
$$
C_{45}\frac{\rho v_1\delta_l^4}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_1\partial x_2^2\partial x_3}\ +\ C_{46}\frac{v_2v_3\delta_l^4}{6\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^3\partial x_3}\ +\ C_{47}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_2^3\partial x_3}\ +\ C_{48}\frac{\rho v_2\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_2^3\partial x_3}\ +
$$
$$
(-2+3\omega_4-\omega_4^2)\frac{3\rho v_3\delta_l^2\delta_t}{2\omega_4^3}\frac{\partial^4v_3}{\partial t^2\partial x_3^2}\ +\ C_{49}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3\omega_2}\frac{\partial^4v_1}{\partial t\partial x_1\partial x_3^2}\ +
$$
$$
(-7\omega_4^2\omega_2^3+12\omega_4^3\omega_2+6\omega_4^2\omega_2^2+\omega_4^3\omega_2^3-6\omega_4^2\omega_2-12\omega_2^3-7\omega_4^3\omega_2^2-6\omega_4^3+18\omega_4\omega_2^3)\frac{\rho v_1v_3\delta_l^3}{6\omega_4^3\omega_2^3}\frac{\partial^4v_3}{\partial t\partial x_1\partial x_3^2}\ +
$$
$$
C_{50}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_3^2}\ +\ C_{51}\frac{\rho v_1\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4v_1}{\partial x_1^2\partial x_3^2}\ +\ C_{52}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4v_3}{\partial x_1^2\partial x_3^2}\ +\ C_{53}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3\omega_3}\frac{\partial^4v_2}{\partial t\partial x_2\partial x_3^2}\ +
$$
$$
(-12\omega_3^3-7\omega_4^3\omega_3^2-6\omega_4^2\omega_3+\omega_4^3\omega_3^3+6\omega_4^2\omega_3^2+12\omega_4^3\omega_3-7\omega_4^2\omega_3^3+18\omega_4\omega_3^3-6\omega_4^3)\frac{\rho v_2v_3\delta_l^3}{6\omega_4^3\omega_3^3}\frac{\partial^4v_3}{\partial t\partial x_2\partial x_3^2}\ +
$$
$$
C_{54}\frac{v_2v_1\delta_l^4}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2\partial x_3^2}\ +\ C_{55}\frac{\rho v_2\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4v_1}{\partial x_1\partial x_2\partial x_3^2}\ +\ C_{56}\frac{\rho v_1\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4v_2}{\partial x_1\partial x_2\partial x_3^2}\ +\ C_{57}\frac{\rho v_2v_1v_3\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_1\partial x_2\partial x_3^2}\ +
$$
$$
C_{58}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^2\partial x_3^2}\ +\ C_{59}\frac{\rho v_2\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4v_2}{\partial x_2^2\partial x_3^2}\ +\ C_{60}\frac{\rho v_3\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_2^2\partial x_3^2}\ +\ C_{61}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3}\frac{\partial^4v_3}{\partial t\partial x_3^3}\ +
$$
$$
C_{62}\frac{v_1v_3\delta_l^4}{6\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_3^3}\ +\ C_{63}\frac{\rho v_3\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4v_1}{\partial x_1\partial x_3^3}\ +\ C_{64}\frac{\rho v_1\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4v_3}{\partial x_1\partial x_3^3}\ +\ C_{65}\frac{v_2v_3\delta_l^4}{6\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2\partial x_3^3}\ +
$$
$$
C_{66}\frac{\rho v_3\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4v_2}{\partial x_2\partial x_3^3}\ +\ C_{67}\frac{\rho v_2\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4v_3}{\partial x_2\partial x_3^3}\ +\ C_{68}\frac{\delta_l^4}{24\omega_7^2\omega_4^3\delta_t}\frac{\partial^4\rho}{\partial x_3^4}\ +\ C_{69}\frac{\rho v_3\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4v_3}{\partial x_3^4}=0,
$$

where:

$C_1 = 6 - v_1^2\omega_5\omega_2 - 3cs^2\omega_5\omega_2 - 3\omega_5 + \omega_5\omega_2 - 3\omega_2 - 18cs^2 - 6v_1^2 + 9cs^2\omega_5 + 3v_1^2\omega_5 + 3v_1^2\omega_2 + 9cs^2\omega_2$

$C_2 = 2\omega_5\omega_2^2 - 5v_1^2\omega_5\omega_2^2 - 3cs^2\omega_5\omega_2^2 - 6\omega_2^2 + 6v_1^2\omega_5\omega_2 + 18cs^2\omega_5\omega_2 - 6\omega_5\omega_2 + 12\omega_2 + 18v_1^2\omega_2^2 + 6cs^2\omega_2^2 - 12cs^2\omega_5 + 12v_1^2\omega_5 - 36v_1^2\omega_2 - 12cs^2\omega_2$

$C_3 = -2v_1^2\omega_5\omega_2\omega_3^2 + 2v_1^2\omega_5\omega_2^2 + 4cs^2\omega_5\omega_2\omega_3^2 - 2cs^2\omega_2\omega_3^2 + 2v_1^2\omega_2\omega_3^2 - 2cs^2\omega_5\omega_2\omega_3 + 2v_1^2\omega_5\omega_2\omega_3 - 2cs^2\omega_5\omega_3^2 + cs^2\omega_5\omega_2^2\omega_3 - 3v_1^2\omega_5\omega_2^2\omega_3 + cs^2\omega_2^2\omega_3^2 - v_1^2\omega_2^2\omega_3^2 + v_1^2\omega_5\omega_2^2\omega_3^2 - cs^2\omega_5\omega_2^2\omega_3^2$

$C_4 = 4cs^2\omega_2^2\omega_6\omega_3 - 2v_2^2\omega_2^2\omega_6\omega_3 + 2v_2^2\omega_2^2\omega_3 - v_2^2\omega_2^2\omega_3^2 - 2cs^2\omega_2^2\omega_6 - cs^2\omega_2^2\omega_6\omega_3^2 + v_2^2\omega_2^2\omega_6\omega_3^2 + 2v_2^2\omega_6\omega_3^2 - 2cs^2\omega_2^2\omega_3 - 3v_2^2\omega_2\omega_6\omega_3^2 + cs^2\omega_2\omega_6\omega_3^2 + 2v_2^2\omega_2\omega_6\omega_3 - 2cs^2\omega_2\omega_6\omega_3 + cs^2\omega_2^2\omega_3^2$

$C_5 = 6 + 3v_2^2\omega_6 + 9cs^2\omega_6 + \omega_6\omega_3 - 3cs^2\omega_6\omega_3 + 9cs^2\omega_3 - 3\omega_6 - 3\omega_3 - 18cs^2 + 3v_2^2\omega_3 - 6v_2^2 - v_2^2\omega_6\omega_3$

$C_6 = -3cs^2\omega_6\omega_3^2 + 2\omega_6\omega_3^2 + 12v_2^2\omega_6 - 6\omega_3^2 - 12cs^2\omega_6 - 6\omega_6\omega_3 + 18cs^2\omega_6\omega_3 - 5v_2^2\omega_6\omega_3^2 - 12cs^2\omega_3 + 18v_2^2\omega_3^2 + 12\omega_3 - 36v_2^2\omega_3 + 6cs^2\omega_3^2 + 6v_2^2\omega_6\omega_3$

$C_7 = -3\omega_4v_1^2\omega_5\omega_2^2 + 2v_1^2\omega_5\omega_2^2 + \omega_4cs^2\omega_5\omega_2^2 + 2\omega_4v_1^2\omega_5\omega_2 - 2\omega_4cs^2\omega_5\omega_2 - \omega_4^2cs^2\omega_5\omega_2^2 + \omega_4^2v_1^2\omega_5\omega_2^2 - 2\omega_4^2cs^2\omega_5 - 2\omega_4^2cs^2\omega_2 + 2\omega_4^2v_1^2\omega_2 + \omega_4^2cs^2\omega_2^2 - \omega_4^2v_1^2\omega_2^2 + 4\omega_4^2cs^2\omega_5\omega_2 - 2\omega_4^2v_1^2\omega_5\omega_2$

$C_8 = \omega_4cs^2\omega_6\omega_3^2 + \omega_4^2v_2^2\omega_6\omega_3^2 - 2\omega_4^2cs^2\omega_6 - 2\omega_4^2v_2^2\omega_6\omega_3 - 2\omega_4cs^2\omega_6\omega_3 - 3\omega_4v_2^2\omega_6\omega_3^2 + 2v_2^2\omega_6\omega_3^2 + 2\omega_4^2v_2^2\omega_3 - \omega_4^2cs^2\omega_6\omega_3^2 + \omega_4^2cs^2\omega_3^2 - 2\omega_4^2cs^2\omega_3 - \omega_4^2v_2^2\omega_3^2 + 4\omega_4^2cs^2\omega_6\omega_3 + 2\omega_4v_2^2\omega_6\omega_3$

$C_9 = 2\omega_7\omega_4^2v_3^2 - 2\omega_4cs^2\omega_2^2 + 2\omega_7\omega_4v_3^2\omega_2 - \omega_7\omega_4^2cs^2\omega_2^2 - \omega_4^2v_3^2\omega_2^2 + \omega_7\omega_4^2cs^2\omega_2 - 2\omega_7\omega_4v_3^2\omega_2^2 + 2\omega_4v_3^2\omega_2^2 - 2\omega_7\omega_4cs^2\omega_2 + \omega_7\omega_4^2v_3^2\omega_2^2 + \omega_4^2cs^2\omega_2^2 - 3\omega_7\omega_4^2v_3^2\omega_2 + 4\omega_7\omega_4cs^2\omega_2^2 - 2\omega_7cs^2\omega_2^2$

$C_{10} = 2\omega_7\omega_4^2v_3^2 - 2\omega_7\omega_4v_3^2\omega_3^2 - \omega_4^2v_3^2\omega_3^2 + \omega_7\omega_4^2cs^2\omega_3 - \omega_7\omega_4^2cs^2\omega_3^2 - 2\omega_4cs^2\omega_3^2 + 2\omega_7\omega_4v_3^2\omega_3 + 4\omega_7\omega_4cs^2\omega_3^2 - 2\omega_7cs^2\omega_3^2 + \omega_4^2cs^2\omega_3^2 - 3\omega_7\omega_4^2v_3^2\omega_3 + \omega_7\omega_4^2v_3^2\omega_3^2 + 2\omega_4v_3^2\omega_3^2 - 2\omega_7\omega_4cs^2\omega_3$

$C_{11} = 6 - 3\omega_7 - 6v_3^2 + \omega_7\omega_4 - 3\omega_4 - 3\omega_7\omega_4cs^2 + 9\omega_7cs^2 + 9\omega_4cs^2 + 3\omega_4v_3^2 - 18cs^2 - \omega_7\omega_4v_3^2 + 3\omega_7v_3^2$

$C_{12} = -5\omega_7\omega_4^2v_3^2 - 6\omega_7\omega_4 + 12\omega_4 + 18\omega_7\omega_4cs^2 - 12\omega_7cs^2 - 12\omega_4cs^2 + 18\omega_4^2v_3^2 + 2\omega_7\omega_4^2 - 36\omega_4v_3^2 - 6\omega_4^2 + 6\omega_4^2cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_7\omega_4v_3^2 + 12\omega_7v_3^2$

$C_{13} = 36\omega_5\omega_2^2 - 108v_1^2\omega_5\omega_2^2 - 36cs^2\omega_5\omega_2^2 - 9\omega_5\omega_2^3 + 9cs^2\omega_5\omega_2^3 + 27v_1^2\omega_5\omega_2^3 - 12\omega_2^2 + 72v_1^2\omega_5\omega_2 + 24cs^2\omega_5\omega_2 + 6\omega_2^3 - 24\omega_5\omega_2 + 18v_1^2\omega_5^2\omega_2 + 36v_1^2\omega_2^2 - 48cs^2\omega_5^2\omega_2 + 12cs^2\omega_2^2 + 12\omega_5^2\omega_2 - 6cs^2\omega_2^3 - 18v_1^2\omega_2^3 + 24cs^2\omega_5^2 - 36v_1^2\omega_5^2 + \omega_5^2\omega_2^3 - 2cs^2\omega_5^2\omega_2^3 - 3v_1^2\omega_5^2\omega_2^3 - 11\omega_5^2\omega_2^2 + 15v_1^2\omega_5^2\omega_2^2 + 25cs^2\omega_5^2\omega_2^2$

$C_{14} =$
$36v_1^4\omega_2^3 + 24cs^4\omega_5^2 - 72cs^2v_1^2\omega_5\omega_2^3 - 72v_1^2\omega_5\omega_2^2 + 24cs^2\omega_5\omega_2^2 + 144cs^2v_1^2\omega_5\omega_2^2 - 72v_1^4\omega_2^2 + 24cs^4\omega_5\omega_2 - 6cs^2\omega_5\omega_2^3 + 30v_1^2\omega_5\omega_2^3 + 72cs^2v_1^2\omega_5\omega_2 + 72v_1^4\omega_5\omega_2^2 - 24cs^4\omega_5\omega_2^2 - 24cs^2\omega_5\omega_2 + 6cs^4\omega_5\omega_2^3 - 30v_1^4\omega_5\omega_2^3 + 72v_1^2\omega_2^2 + 12cs^2\omega_5^2\omega_2 - 216cs^2v_1^2\omega_2^2 - 3cs^4\omega_5^2\omega_2^3 + 3v_1^4\omega_5^2\omega_2^3 - 36v_1^2\omega_2^3 - 36cs^2v_1^2\omega_5^2\omega_2 - 12v_1^4\omega_5^2\omega_2^2 + 24cs^4\omega_5^2\omega_2^2 + 108cs^2v_1^2\omega_2^3 - 12cs^2v_1^2\omega_5^2\omega_2^2 - 48cs^4\omega_5^2\omega_2 + cs^2\omega_5^2\omega_2^3 - 3v_1^2\omega_5^2\omega_2^3 + 6cs^2v_1^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^2 - 8cs^2\omega_5^2\omega_2^2$

$C_{15} = -24\omega_5\omega_2^2 + 24v_1^2\omega_5\omega_2^2 + 72cs^2\omega_5\omega_2^2 + 12\omega_5\omega_2^3 - 24cs^2\omega_5\omega_2^3 - 24v_1^2\omega_5\omega_2^3 + 36\omega_2^2 + 60v_1^2\omega_5\omega_2 - 12cs^2\omega_5\omega_2 - 18\omega_2^3 - 12\omega_5\omega_2 - 12v_1^2\omega_5^2\omega_2 - 84v_1^2\omega_2^2 - 30cs^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 + 6\omega_5^2\omega_2 + 30cs^2\omega_2^3 + 42v_1^2\omega_2^3 + 24cs^2\omega_5^2 - 12v_1^2\omega_5^2 - \omega_5^2\omega_2^3 + cs^2\omega_5^2\omega_2^3 + 2v_1^2\omega_5^2\omega_2^3 + 2\omega_5^2\omega_2^2 + 2v_1^2\omega_5^2\omega_2^2 - 2cs^2\omega_5^2\omega_2^2$

$C_{16} = v_1^2\omega_5^2\omega_2^3\omega_3 - 12v_1^2\omega_5\omega_2^2 + 12cs^2\omega_5\omega_2^2 - 2cs^2\omega_5^2\omega_2^3\omega_3 - 6cs^2\omega_5\omega_2^3 + 6v_1^2\omega_5\omega_2^3 + 22cs^2\omega_5^2\omega_2^2\omega_3 + 8v_1^2\omega_5^2\omega_2^2\omega_3 + 12cs^2\omega_5\omega_2\omega_3 - 12v_1^2\omega_5\omega_2\omega_3 + 12v_1^2\omega_5^2\omega_2 - 30cs^2\omega_5\omega_2^2\omega_3 + 12cs^2\omega_5^2\omega_2 + 30v_1^2\omega_5\omega_2^2\omega_3 + 12cs^2\omega_2^2\omega_3 - 30cs^2\omega_5^2\omega_2\omega_3 - 12v_1^2\omega_2^2\omega_3 - 36v_1^2\omega_5^2\omega_2\omega_3 - 9v_1^2\omega_5\omega_2^3\omega_3 + 3cs^2\omega_5^2\omega_2^3 + 9cs^2\omega_5\omega_2^3\omega_3 - v_1^2\omega_5^2\omega_2^3 + 24v_1^2\omega_5^2\omega_3 + 12cs^2\omega_5^2\omega_3 - 6v_1^2\omega_5^2\omega_2^2 + 6v_1^2\omega_2^3\omega_3 - 6cs^2\omega_2^3\omega_3 - 18cs^2\omega_5^2\omega_2^2$

$C_{17} = -6v_1^2\omega_5^2\omega_2^2\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^3 - 12v_1^2\omega_5^2\omega_2^3\omega_3 + 12\omega_5\omega_2\omega_3^3 - 36cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 24v_1^2\omega_5\omega_2\omega_3^3 + 7\omega_5^2\omega_2^2\omega_3^3 - 6v_1^2\omega_5^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2\omega_3^3 + 36cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 + \omega_5^2\omega_2^3\omega_3^3 + 6v_1^2\omega_5^2\omega_2^2\omega_3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 - \omega_5^2\omega_2^3\omega_3^3 + 6v_1^2\omega_5^2\omega_2^3\omega_3^2 - 24cs^2\omega_5\omega_2^3\omega_3^3 - 3\omega_5\omega_2^3\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 18cs^2\omega_2^3\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^3 + 6\omega_5\omega_2^3\omega_3^3 - 3\omega_2^3\omega_3^3 - 6\omega_5^2\omega_2\omega_3^3 + 6\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2\omega_3^3 + 72cs^2\omega_5\omega_2^2\omega_3^3 + 6v_1^2\omega_5^2\omega_2^3 - 21\omega_5\omega_2^2\omega_3^3 + 6\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 36cs^2\omega_2^2\omega_3^3$

$C_{18} = -12v_1^2\omega_5^2\omega_2^2\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^3 - 18v_1^2\omega_5^2\omega_2^3\omega_3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 + 12v_1^2\omega_5\omega_2\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^2\omega_3^3 - 12cs^2\omega_5\omega_2\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 + 3v_1^2\omega_5^2\omega_2^3\omega_3^3 + 2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_5^2\omega_2^3\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5\omega_2^3\omega_3^3 - 6\omega_5\omega_2^3\omega_3^2 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 6cs^2\omega_2^3\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^3 + 12v_1^2\omega_5\omega_2^3\omega_3^3 + 3\omega_5\omega_2^3\omega_3^3 - 24v_1^2\omega_5^2\omega_3^3 + 12\omega_5\omega_2^2\omega_3^3 - 12v_1^2\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^3 + 36cs^2\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^3 - 24v_1^2\omega_5\omega_2^2\omega_3^3 - 6\omega_5\omega_2^2\omega_3^3 + 30v_1^2\omega_5^2\omega_2\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3$

$C_{19} = -36\omega_5\omega_2^2 + 48v_1^2\omega_5\omega_2^2 + 96cs^2\omega_5\omega_2^2 + 9\omega_5\omega_2^3 - 30cs^2\omega_5\omega_2^3 - 6v_1^2\omega_5\omega_2^3 + 12\omega_2^2 - 60v_1^2\omega_5\omega_2 - 36cs^2\omega_5\omega_2 - 6\omega_2^3 + 24\omega_5\omega_2 + 12v_1^2\omega_5^2\omega_2 + 12v_1^2\omega_2^2 + 18cs^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 - 12\omega_5^2\omega_2 + 30cs^2\omega_2^3 - 6v_1^2\omega_2^3 + 12v_1^2\omega_5^2 - \omega_5^2\omega_2^3 + 4cs^2\omega_5^2\omega_2^3 + v_1^2\omega_5^2\omega_2^3 + 11\omega_5^2\omega_2^2 - 14v_1^2\omega_5^2\omega_2^2 - 26cs^2\omega_5^2\omega_2^2$

$C_{20} = 12cs^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3 - 6cs^2\omega_2\omega_3^3 - 30cs^2\omega_2\omega_6^2\omega_3 - 6cs^2\omega_6\omega_3^3 - 36v_2^2\omega_2\omega_6^2\omega_3 + 12cs^2\omega_2\omega_3^2 + 24v_2^2\omega_2\omega_6^2 - v_2^2\omega_6^2\omega_3^3 + 22cs^2\omega_2\omega_6^2\omega_3^2 + 8v_2^2\omega_2\omega_6^2\omega_3^2 - 6v_2^2\omega_6^2\omega_3^2 + v_2^2\omega_2\omega_6^2\omega_3^3 - 2cs^2\omega_2\omega_6^2\omega_3^3 - 12v_2^2\omega_6\omega_3^2 + 9cs^2\omega_2\omega_6\omega_3^3 + 12cs^2\omega_6^2\omega_3 - 9v_2^2\omega_2\omega_6\omega_3^3 + 6v_2^2\omega_2\omega_3^3 + 6v_2^2\omega_6\omega_3^3 - 12v_2^2\omega_2\omega_3^2 + 30v_2^2\omega_2\omega_6\omega_3^2 - 30cs^2\omega_2\omega_6\omega_3^2 - 12v_2^2\omega_2\omega_6\omega_3 + 3cs^2\omega_6^2\omega_3^3 + 12cs^2\omega_2\omega_6^2 + 12cs^2\omega_2\omega_6\omega_3 - 18cs^2\omega_6^2\omega_3^2$

$C_{21} = 2cs^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^3 + v_2^2cs^2\omega_5^2\omega_3^2\omega_6^2\omega_3^3 - 8cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 - 4v_2^2cs^2\omega_5\omega_2^2\omega_6^2\omega_3^3 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_3^3 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_3^3 + 14v_2^2v_1^2\omega_5^2\omega_3^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_3^2\omega_6\omega_3^2 - 10v_2^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^3 - 4cs^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^3 - 2v_2^2cs^2\omega_5^2\omega_2^3\omega_6^2\omega_3^3 + cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3^3 + 10v_2^2cs^2\omega_5\omega_2^2\omega_6^2\omega_3^3 + cs^4\omega_5^2\omega_2^3\omega_6\omega_3^3 - 3v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3^3 + 4v_2^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^3 + 2cs^2v_1^2\omega_5^2\omega_2^3\omega_3^3 - 2v_2^2v_1^2\omega_5^2\omega_2^3\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3 - 14v_2^2v_1^2\omega_5^2\omega_2\omega_6^2\omega_3^3 + 4v_2^2v_1^2\omega_5^2\omega_2^2\omega_6\omega_3^3 -$

$$12cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 4v_2^2cs^2\omega_5^2\omega_6^2\omega_3^3 + cs^4\omega_5\omega_2^3\omega_6^2\omega_3^3 - 4v_2^2cs^2\omega_5^2\omega_2\omega_6^2\omega_3^2 + 2v_2^2cs^2\omega_5^2\omega_2^2\omega_6\omega_3^3 + 4v_2^2v_1^2\omega_5^2\omega_6^2\omega_3^3 - 4cs^2v_1^2\omega_5^2\omega_2^2\omega_6\omega_3^2 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^3 - 2v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 + 12v_2^2v_1^2\omega_5^2\omega_2\omega_6^2\omega_3^2 + 2v_2^2cs^2\omega_6^2\omega_3^3 - 14v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3 - 2v_2^2v_1^2\omega_2^2\omega_6^2\omega_3^3 + 10cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3 - 4v_2^2cs^2\omega_5^2\omega_2^2\omega_6\omega_3^3 + 10v_2^2cs^2\omega_5^2\omega_2\omega_6^2\omega_3^3 + 4cs^4\omega_5^2\omega_2\omega_6^2\omega_3^2 - 2v_2^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^2\omega_6\omega_3^3 + 14v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3^2 - 3v_2^2cs^2\omega_5\omega_2^3\omega_6^2\omega_3^3 - 2cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 + 8v_2^2cs^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 2cs^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^3 + 3v_2^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^3 - 28v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2^2\omega_6\omega_3^2 - 2cs^4\omega_5^2\omega_2\omega_6^2\omega_3^3 + 2v_2^2cs^2\omega_5\omega_2^3\omega_6^2\omega_3^2 + 8cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 8v_2^2cs^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 - cs^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^3 + 4v_2^2v_1^2\omega_2^2\omega_6^2\omega_3^3 - 4cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3 - 3cs^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^3 + 2v_2^2cs^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 4v_2^2v_1^2\omega_5\omega_2\omega_6^2\omega_3^3 + 4cs^4\omega_5\omega_2^2\omega_6^2\omega_3^2 - cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^3 + 3v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^3 - 4v_2^2cs^2\omega_5^2\omega_2^2\omega_6^2\omega_3^3 + 12v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3 + 10cs^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 - v_2^2cs^2\omega_5^2\omega_2^3\omega_6\omega_3^3 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2 - 4v_2^2cs^2\omega_5\omega_2\omega_6^2\omega_3^3 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2 - 2cs^4\omega_5\omega_2^2\omega_6^2\omega_3^3 - 10v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 4cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^2$$

$$C_{22} = 12v_2^2\omega_2^3\omega_3^2 - 4v_2^2\omega_2^3\omega_6^2\omega_3^3 + cs^2\omega_2^3\omega_6^2\omega_3^3 - 14cs^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 + 22v_2^2\omega_2^3\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 + 24cs^2\omega_2^3\omega_6^2\omega_3 - 18v_2^2\omega_2^3\omega_6^2\omega_3 - 12cs^2\omega_2\omega_6^2\omega_3^3 + 24v_2^2\omega_2\omega_6^2\omega_3^3 - 30v_2^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 - 12cs^2\omega_2^3\omega_3^2 - 48v_2^2\omega_2^2\omega_6^2\omega_3^2 + 12cs^2\omega_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2^3\omega_3^3 + 12v_2^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3 - 6cs^2\omega_2^2\omega_6^2\omega_3^3 + 22v_2^2\omega_2^2\omega_6^2\omega_3^3 - 24v_2^2\omega_2^3\omega_6\omega_3^2 + 24cs^2\omega_2^3\omega_6\omega_3^2 + 24v_2^2\omega_2^2\omega_6^2\omega_3 - 6cs^2\omega_2^3\omega_6\omega_3^3 + 6v_2^2\omega_2^3\omega_6\omega_3^3$$

$$C_{23} = 22v_1^2\omega_5^2\omega_2^2\omega_3^3 - 30v_1^2\omega_5^2\omega_2^3\omega_3 - 14cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 + 12v_1^2\omega_5\omega_2\omega_3^3 - 48v_1^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5\omega_2\omega_3^3 + 12cs^2\omega_5^2\omega_2^2\omega_3^2 + cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 4v_1^2\omega_5^2\omega_2^3\omega_3^3 + 24v_1^2\omega_5^2\omega_2^2\omega_3 - 6cs^2\omega_5^2\omega_2^3\omega_3^2 + 22v_1^2\omega_5^2\omega_2^3\omega_3^2 - 6cs^2\omega_5\omega_2^3\omega_3^3 + 6v_1^2\omega_5\omega_2^3\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 + 24v_1^2\omega_5^2\omega_2\omega_3^2 - 24v_1^2\omega_5\omega_2^2\omega_3^3 + 24cs^2\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^2 - 18v_1^2\omega_5^2\omega_2\omega_3^2 + 12v_1^2\omega_2^2\omega_3^2 + 24cs^2\omega_5^2\omega_2\omega_3^2 - 12cs^2\omega_2^2\omega_3^3$$

$$C_{24} = -36cs^2\omega_6\omega_3^2 + 24cs^2\omega_6^2 + 6\omega_3^3 + 18v_2^2\omega_6^2\omega_3 + 36\omega_6\omega_3^2 + 9cs^2\omega_6\omega_3^2 - 9\omega_6\omega_3^3 - 12\omega_3^2 - 3v_2^2\omega_6^2\omega_3^2 - 36v_2^2\omega_6^2 + 15v_2^2\omega_6^2\omega_3^2 - 24\omega_6\omega_3 + 24cs^2\omega_6\omega_3 - 108v_2^2\omega_6\omega_3^2 - 18v_2^2\omega_3^2 + 12\omega_6^2\omega_3 - 48cs^2\omega_6^2\omega_3 + 36v_2^2\omega_3^2 + 27v_2^2\omega_6\omega_3^2 - 6cs^2\omega_3^2 - 2cs^2\omega_6^2\omega_3^2 + \omega_6^2\omega_3^2 + 25cs^2\omega_6^2\omega_3^2 + 12cs^2\omega_3^2 + 72v_2^2\omega_6\omega_3 - 11\omega_6^2\omega_3^2$$

$$C_{25} = 12v_2^2\omega_2^3\omega_3^2 + 6cs^2\omega_2^3\omega_6^2\omega_3^2 + 7\omega_2^3\omega_6^2\omega_3^2 - 36cs^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 - 6v_2^2\omega_2^3\omega_6^2\omega_3^2 - \omega_2^3\omega_6^2\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 + 6v_2^2\omega_6^2\omega_3^2 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_2^3\omega_6^2\omega_3 - 12cs^2\omega_2\omega_6^2\omega_3^2 + 12cs^2\omega_2^2\omega_6\omega_3^2 + 6v_2^2\omega_2\omega_6^2\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^2 - 12v_2^2\omega_2\omega_6^2\omega_3^2 - 3\omega_2^2\omega_6^2\omega_3^2 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^2 - 12cs^2\omega_2^3\omega_6^2 + 12\omega_2^3\omega_6\omega_3 - 36cs^2\omega_2^3\omega_3^2 + \omega_2^2\omega_6^2\omega_3^2 + 6\omega_2^3\omega_3^2 - 6v_2^2\omega_2^2\omega_6^2\omega_3^2 + 36cs^2\omega_2^2\omega_6^2\omega_3^2 - 3\omega_2^2\omega_6^2\omega_3^2 + 18cs^2\omega_2^3\omega_3^2 - 24v_2^2\omega_2^3\omega_6\omega_3 - 24cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^2 + 6v_2^2\omega_2^2\omega_6^2\omega_3^2 - 3\omega_2^3\omega_3^2 + 12v_2^2\omega_2^3\omega_6\omega_3^2 + 72cs^2\omega_2^3\omega_6\omega_3^2 + 6\omega_2^3\omega_6\omega_3^2 - 12cs^2\omega_2^2\omega_6^2\omega_3 - 24cs^2\omega_2^3\omega_6\omega_3^2 - 21\omega_2^3\omega_6\omega_3^2$$

$$C_{26} = 96cs^2\omega_6\omega_3^2 - 6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 - 36\omega_6\omega_3^2 - 30cs^2\omega_6\omega_3^3 + 9\omega_6\omega_3^3 + 12\omega_3^2 + v_2^2\omega_6^2\omega_3^3 + 12v_2^2\omega_6^2 - 14v_2^2\omega_6^2\omega_3^2 + 24\omega_6\omega_3 - 36cs^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 + 18cs^2\omega_6^2\omega_3 + 12v_2^2\omega_3^2 - 6v_2^2\omega_6\omega_3^3 + 30cs^2\omega_3^3 + 4cs^2\omega_6^2\omega_3^3 - \omega_6^2\omega_3^3 - 26cs^2\omega_6^2\omega_3^2 - 60cs^2\omega_3^2 - 60v_2^2\omega_6\omega_3 + 11\omega_6^2\omega_3^2$$

$$C_{27} = 12v_2^2\omega_2^3\omega_3^2 + 3v_2^2\omega_2^3\omega_6^2\omega_3^3 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6^2\omega_3^2 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 - 12v_2^2\omega_2^3\omega_6^2\omega_3^2 - \omega_2^3\omega_6^2\omega_3^3 + 12\omega_2^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 30v_2^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_2^2\omega_6\omega_3^3 - 12cs^2\omega_2\omega_6^2\omega_3^3 + 12cs^2\omega_2^2\omega_6\omega_3^3 - 6\omega_2^2\omega_6\omega_3^3 - 18v_2^2\omega_2\omega_6^2\omega_3^3 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 - 24v_2^2\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 + 2\omega_2^2\omega_6^2\omega_3^3 + 12v_2^2\omega_2^2\omega_6^2\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 - 6\omega_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2^3\omega_3^3 + 12v_2^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12v_2^2\omega_2^3\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 + 3\omega_2^3\omega_6\omega_3^3 - 24cs^2\omega_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3^3 - 6\omega_2^3\omega_6\omega_3^2 - 24v_2^2\omega_2^3\omega_6^2$$

$$C_{28} = 24cs^2\omega_6\omega_3^2 - 72v_2^4\omega_3^2 + 3v_2^4\omega_6^2\omega_3^3 - 72v_2^2cs^2\omega_6\omega_3^3 - 12v_2^4\omega_6^2\omega_3^2 + 36v_2^4\omega_3^3 - 6cs^2\omega_6\omega_3^3 + 144v_2^2cs^2\omega_6\omega_3^2 + 24cs^4\omega_6\omega_3 + 72v_2^2cs^2\omega_6\omega_3 - 24cs^4\omega_6\omega_3^2 - 3v_2^2\omega_6^2\omega_3^3 + 108v_2^2cs^2\omega_3^3 + 12v_2^2\omega_6^2\omega_3^2 + 6cs^4\omega_6\omega_3^3 - 216v_2^2cs^2\omega_3^2 - 24cs^2\omega_6\omega_3 - 72v_2^2\omega_6\omega_3^2 - 36v_2^2\omega_3^3 - 3cs^4\omega_6^2\omega_3^3 + 12cs^2\omega_6^2\omega_3 + 24cs^4\omega_6^2\omega_3^2 - 36v_2^2cs^2\omega_6^2\omega_3 + 72v_2^2\omega_3^2 + 30v_2^2\omega_6\omega_3^3 + 24cs^4\omega_6^2 + 72v_2^4\omega_6\omega_3^2 + cs^2\omega_6^2\omega_3^3 - 48cs^4\omega_6^2\omega_3 - 12v_2^2cs^2\omega_6^2\omega_3^2 - 8cs^2\omega_6^2\omega_3^2 - 30v_2^4\omega_6\omega_3^3 + 6v_2^2cs^2\omega_6^2\omega_3^3$$

$$C_{29} = 72cs^2\omega_6\omega_3^2 + 24cs^2\omega_6^2 - 18\omega_3^3 - 12v_2^2\omega_6^2\omega_3 - 24\omega_6\omega_3^2 - 24cs^2\omega_6\omega_3^2 + 12\omega_6\omega_3^2 + 36\omega_3^2 + 2v_2^2\omega_6^2\omega_3^2 - 12v_2^2\omega_6^2 + 2v_2^2\omega_6^2\omega_3^2 - 12\omega_6\omega_3 - 12cs^2\omega_6\omega_3 + 24v_2^2\omega_6\omega_3^2 + 42v_2^2\omega_3^2 + 6\omega_6^2\omega_3 - 30cs^2\omega_6^2\omega_3 - 84v_2^2\omega_3^2 - 24v_2^2\omega_6\omega_3^2 + 30cs^2\omega_3^2 + cs^2\omega_6^2\omega_3^2 - \omega_6^2\omega_3^2 - 2cs^2\omega_6^2\omega_3^2 - 60cs^2\omega_3^2 + 60v_2^2\omega_6\omega_3 + 2\omega_6^2\omega_3^2$$

$$C_{30} = -12\omega_4v_1^2\omega_2^2 + 12\omega_4cs^2\omega_2^2 + 30\omega_4v_1^2\omega_5\omega_2^2 - 12v_1^2\omega_5\omega_2^2 - 30\omega_4cs^2\omega_5\omega_2^2 + 12cs^2\omega_5\omega_2^2 - 6\omega_4cs^2\omega_2^3 + 6\omega_4v_1^2\omega_2^3 + 12\omega_4cs^2\omega_2^2 + 24\omega_4v_1^2\omega_5^2 + 9\omega_4cs^2\omega_5\omega_2^3 - 6cs^2\omega_5\omega_2^3 - 9\omega_4v_1^2\omega_5\omega_2^3 + 6v_1^2\omega_5\omega_2^3 - 12\omega_4v_1^2\omega_5\omega_2 + 12\omega_4cs^2\omega_5\omega_2 - 36\omega_4v_1^2\omega_5^2\omega_2 + 12v_1^2\omega_5^2\omega_2 - 30\omega_4cs^2\omega_5^2\omega_2 + 12cs^2\omega_5^2\omega_2 + 3cs^2\omega_5^2\omega_2^3 - 2\omega_4cs^2\omega_5^2\omega_2^3 - v_1^2\omega_5^2\omega_2^3 + \omega_4v_1^2\omega_5^2\omega_2^3 - 6v_1^2\omega_5^2\omega_2^2 + 8\omega_4v_1^2\omega_5^2\omega_2^2 - 18cs^2\omega_5^2\omega_2^2 + 22\omega_4cs^2\omega_5^2\omega_2^2$$

$$C_{31} = -6\omega_4^3v_1^2\omega_5^2\omega_2^2 - 36\omega_4^3cs^2\omega_5^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2 + 7\omega_4^3\omega_5^2\omega_2^2 + 6\omega_4^3cs^2\omega_5^2\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3 + 6\omega_4^2v_1^2\omega_5^2\omega_2^3 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 6\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_5^2 - 3\omega_4^3\omega_2^3 + 18\omega_4^3cs^2\omega_2^3 - 6\omega_4^3v_1^2\omega_2^3 - 3\omega_4^2\omega_5\omega_2^3 + 36\omega_4^2cs^2\omega_5^2\omega_2^2 - 6\omega_4^2v_1^2\omega_5^2\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2 + 12\omega_4^3v_1^2\omega_2^2 + 12\omega_4^3v_1^2\omega_5^2\omega_2 - 36\omega_4^3cs^2\omega_2^2 + 36\omega_4^3cs^2\omega_5^2\omega_2 + 6\omega_4^3\omega_2^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 + \omega_4^2\omega_5^2\omega_2^2 + 12\omega_4^3\omega_5\omega_2 - 24\omega_4^3v_1^2\omega_5\omega_2 - 24\omega_4^3cs^2\omega_5\omega_2 - 3\omega_4^2\omega_5^2\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^2 - 24\omega_4^3cs^2\omega_5\omega_2^2 + 6\omega_4cs^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_5\omega_2^2 + 6v_1^2\omega_5^2\omega_2^2 - 12\omega_4v_1^2\omega_5^2\omega_2^2 + 12\omega_4^3v_1^2\omega_5\omega_2^2 + 72\omega_4^3cs^2\omega_5\omega_2^2 + 6\omega_4v_1^2\omega_5^2\omega_2^2 - 21\omega_4^3\omega_5\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2$$

$$C_{32} = -12\omega_4^3v_1^2\omega_5^2\omega_2^2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 3\omega_4^3\omega_5^2\omega_2^2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 + 3\omega_4^3v_1^2\omega_5^2\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_5^2 - 24\omega_4^3v_1^2\omega_5^2 + 6\omega_4^3cs^2\omega_2^3 - 6\omega_4^3v_1^2\omega_2^3 - 6\omega_4^2\omega_5\omega_2^3 + 48\omega_4^2cs^2\omega_5^2\omega_2^2 + 12\omega_4^2v_1^2\omega_5^2\omega_2^2 + 12\omega_4^3v_1^2\omega_2^2 + 30\omega_4^3v_1^2\omega_5^2\omega_2 - 12\omega_4^3cs^2\omega_2^2 + 36\omega_4^3cs^2\omega_5^2\omega_2 - 24\omega_4^2cs^2\omega_5\omega_2^2 + 2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2v_1^2\omega_5\omega_2^2 + 12\omega_4^3v_1^2\omega_5\omega_2 - 12\omega_4^3cs^2\omega_5\omega_2 + 12\omega_4^2v_1^2\omega_5\omega_2^2 - 6\omega_4^2\omega_5^2\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_5\omega_2^2 + 6\omega_4cs^2\omega_5^2\omega_2^2 + 3\omega_4^3\omega_5\omega_2^2 + 12v_1^2\omega_5^2\omega_2^2 - 18\omega_4v_1^2\omega_5^2\omega_2^2 - 12\omega_4^3v_1^2\omega_5\omega_2^2 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 6\omega_4^3\omega_5\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2$$

$$C_{33} = -36\omega_5\omega_2^2 + 48v_1^2\omega_5\omega_2^2 + 96cs^2\omega_5\omega_2^2 + 9\omega_5\omega_2^3 - 30cs^2\omega_5\omega_2^3 - 6v_1^2\omega_5\omega_2^3 + 12\omega_2^2 - 60v_1^2\omega_5\omega_2 - 36cs^2\omega_5\omega_2 - 6\omega_2^3 + 24\omega_5\omega_2 + 12v_1^2\omega_5^2\omega_2 + 12v_1^2\omega_2^2 + 18cs^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 - 12\omega_5^2\omega_2 + 30cs^2\omega_2^3 - 6v_1^2\omega_2^3 + 12v_1^2\omega_5^2 - \omega_5^2\omega_2^3 + 4cs^2\omega_5^2\omega_2^3 + v_1^2\omega_5^2\omega_2^3 + 11\omega_5^2\omega_2^2 - 14v_1^2\omega_5^2\omega_2^2 - 26cs^2\omega_5^2\omega_2^2$$

$$C_{34} = -6\omega_2\omega_3^3 - 6\omega_4^3\omega_2 - 12\omega_4^2\omega_2\omega_3 + 12\omega_4^3\omega_3^2 - 4\omega_4^3\omega_3^3 - 12\omega_4^2\omega_3^2 - 16\omega_4^2\omega_2\omega_3^2 + 30\omega_4^2\omega_2\omega_3^2 - 6\omega_4^3\omega_3 + 12\omega_4^2\omega_3^2 + 18\omega_4\omega_2\omega_3^2 - 6\omega_4\omega_3^3 + 18\omega_4^3\omega_2\omega_3 - 12\omega_4\omega_2\omega_3^2 - 16\omega_4^3\omega_2\omega_3^2 + 3\omega_4^3\omega_2\omega_3^3$$

$$C_{35} = 12\omega_4^2\omega_2^3 - 6\omega_4^3\omega_2 - 12\omega_4^2\omega_2\omega_3 + 3\omega_4^3\omega_2^3\omega_3 - 12\omega_4^2\omega_2^2 - 12\omega_4\omega_2^2\omega_3 - 16\omega_4^3\omega_2^2\omega_3 - 4\omega_4^3\omega_2^3 + 18\omega_4\omega_2^3\omega_3 - 6\omega_4^3\omega_3 + 12\omega_4^3\omega_2^2 + 18\omega_4^3\omega_2\omega_3 - 16\omega_4^2\omega_2^3\omega_3 - 6\omega_2^3\omega_3 - 6\omega_4\omega_2^3 + 30\omega_4^2\omega_2^2\omega_3$$

$$C_{36} = -6\omega_2\omega_3^3 - 16\omega_4\omega_2^3\omega_3^2 - 12\omega_4\omega_2^2\omega_3 + 3\omega_4\omega_2^3\omega_3^3 + 30\omega_4\omega_2^2\omega_3^2 + 18\omega_4\omega_2^3\omega_3 - 16\omega_4\omega_2^2\omega_3^3 + 18\omega_4\omega_2\omega_3^3 - 6\omega_4\omega_3^3 + 12\omega_2^3\omega_3^2 - 12\omega_4\omega_2\omega_3^2 - 4\omega_2^3\omega_3^3 - 12\omega_2^2\omega_3^2 - 6\omega_2^3\omega_3 + 12\omega_2^2\omega_3^3 - 6\omega_4\omega_2^3$$

$$C_{37} = -2\omega_4^2 cs^2\omega_5^2\omega_2^2\omega_3^2 + 2\omega_4^3 v_1^2\omega_2^2\omega_3^2 + 4\omega_4 v_1^2\omega_5^2\omega_2^2\omega_3^3 - 7\omega_4^3 v_1^2\omega_5^2\omega_2\omega_3^3 - 2\omega_4^3 cs^2\omega_2^2\omega_3^3 + 2\omega_4^3 v_1^2\omega_5\omega_2^2\omega_3^2 + 6\omega_4^3 cs^2\omega_5^2\omega_2\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^2 + 4\omega_4^2 v_1^2\omega_5^2\omega_2^2\omega_3^2 - 2\omega_4 cs^2\omega_5^2\omega_2^2\omega_3^3 - 6\omega_4^3 v_1^2\omega_5\omega_2^2\omega_3^3 + 3\omega_4^3 v_1^2\omega_5^2\omega_2\omega_3^2 + 3\omega_4^3 v_1^2\omega_5^2\omega_2^2\omega_3^2 + 6\omega_4^2 cs^2\omega_5^2\omega_2^2\omega_3^3 + 3\omega_4^2 v_1^2\omega_5^2\omega_2^3\omega_3 - 10\omega_4^2 v_1^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^3 cs^2\omega_5\omega_2^2\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2\omega_3^2 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 - 8\omega_4^2 v_1^2\omega_5^2\omega_2^3\omega_3^2 + \omega_4 cs^2\omega_5^2\omega_2^2\omega_3^3 + 2\omega_4^3 v_1^2\omega_5^2\omega_2^3\omega_3 + \omega_4^3 cs^2\omega_5\omega_2^3\omega_3^2 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3^2 - \omega_4^3 v_1^2\omega_5\omega_2^3\omega_3^2 + \omega_4^2 cs^2\omega_5^2\omega_2^3\omega_3^2 + 3v_1^2\omega_5^2\omega_2^3\omega_3^3 - \omega_4^3 v_1^2\omega_2^3\omega_3^3 - 8\omega_4 v_1^2\omega_5^2\omega_2^3\omega_3^3 - 2\omega_4^3 cs^2\omega_5\omega_2^3\omega_3^3 + 7\omega_4^2 v_1^2\omega_5^2\omega_2^3\omega_3^3 + 3\omega_4 v_1^2\omega_5^2\omega_2^3\omega_3^3 + 2\omega_4^2 cs^2\omega_5^2\omega_2^3\omega_3^3 - \omega_4^2 v_1^2\omega_5\omega_2^3\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3^3 + 4\omega_4^3 v_1^2\omega_5^2\omega_2^2\omega_3 - 2\omega_4^3 v_1^2\omega_5^2\omega_2^3\omega_3^3 + \omega_4^2 cs^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^2 - 2\omega_4^3 cs^2\omega_5\omega_2\omega_3^3 - 2\omega_4^2 cs^2\omega_5\omega_2^2\omega_3^3 - 8\omega_4^3 v_1^2\omega_5^2\omega_2^3\omega_3 + 8\omega_4^3 v_1^2\omega_5^2\omega_2^2\omega_3^3 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3 - 6\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 + 2\omega_4^2 v_1^2\omega_5\omega_2^2\omega_3^3$$

$$C_{38} = 18\omega_4\omega_2^3\omega_3^2 - 30\omega_4^3\omega_2^3\omega_3 + 28\omega_4^3\omega_2^2\omega_3^3 - 30\omega_4^3\omega_2^2\omega_3^2 + 12\omega_4^3\omega_3^3 - 30\omega_4\omega_2^3\omega_3^3 + 6\omega_4^3\omega_2^2\omega_3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^2\omega_2\omega_3^3 + 12\omega_4^3\omega_2^3 + 6\omega_4\omega_2^2\omega_3^3 + 24\omega_4^3\omega_2^3\omega_3^2 + 12\omega_4^2\omega_2^2\omega_3^2 - 30\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^2\omega_2^3\omega_3 + 12\omega_2^3\omega_3^3 + 18\omega_4^3\omega_2\omega_3^2 - 42\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^2\omega_3^3 - 36\omega_4^3\omega_2\omega_3^3$$

$$C_{39} = 16\omega_4^3 v_1^2\omega_5^2\omega_2^2 - 32\omega_4^3 cs^2\omega_5^2\omega_2^2 - 24\omega_4^2 cs^2\omega_5^2\omega_2 + 4\omega_4^3 cs^2\omega_5^2\omega_2^3 - 5\omega_4^3 v_1^2\omega_5^2\omega_2^3 + 24\omega_4^2 v_1^2\omega_5^2\omega_2^2 - 12\omega_4^2 cs^2\omega_5^2\omega_2^2 - 12\omega_4^2 cs^2\omega_2^2 + 6\omega_4^3 cs^2\omega_2^3 - 6\omega_4^3 v_1^2\omega_2^3 + 48\omega_4^2 cs^2\omega_5^2\omega_2^2 - 36\omega_4^2 v_1^2\omega_5^2\omega_2^2 + 12\omega_4^3 v_1^2\omega_2^2 - 6\omega_4^3 v_1^2\omega_5^2\omega_2 - 12\omega_4^3 cs^2\omega_2^2 + 36\omega_4^3 cs^2\omega_5^2\omega_2 - 24\omega_4^2 cs^2\omega_5\omega_2^2 + 24\omega_4^2 v_1^2\omega_5\omega_2^2 + 12\omega_4^3 v_1^2\omega_5\omega_2 - 12\omega_4^3 cs^2\omega_5\omega_2 - 12\omega_4^2 v_1^2\omega_5\omega_2^3 + 12\omega_4^2 cs^2\omega_5\omega_2^3 - 12\omega_4^3 cs^2\omega_5\omega_2^3 + 12\omega_4^3 v_1^2\omega_5\omega_2^3 + 6\omega_4 cs^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 - 30\omega_4 v_1^2\omega_5^2\omega_2^3 - 36\omega_4^3 v_1^2\omega_5\omega_2^2 + 36\omega_4^3 cs^2\omega_5\omega_2^2 + 24\omega_4 v_1^2\omega_5^2\omega_2^2 - 12\omega_4 cs^2\omega_5^2\omega_2^2$$

$$C_{40} = 16v_1^2\omega_5^2\omega_2^2\omega_3^3 - 30v_1^2\omega_5^2\omega_2^3\omega_3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 + 12v_1^2\omega_5\omega_2\omega_3^3 - 36v_1^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5\omega_2\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 5v_1^2\omega_5^2\omega_2^3\omega_3^3 + 24v_1^2\omega_5^2\omega_2^2\omega_3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 + 24v_1^2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_5\omega_2^3\omega_3^3 + 12v_1^2\omega_5\omega_2^3\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 6cs^2\omega_2^3\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3 - 12v_1^2\omega_5\omega_2^3\omega_3^2 - 36v_1^2\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 36cs^2\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^3 + 24v_1^2\omega_5\omega_2^2\omega_3^2 - 6v_1^2\omega_5^2\omega_2\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^2 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3$$

$$C_{41} = 12cs^2\omega_6\omega_3^2 - 30\omega_4 cs^2\omega_6\omega_3^2 + 6\omega_4 v_2^2\omega_3^3 - 36\omega_4 v_2^2\omega_6^2\omega_3 + 12v_2^2\omega_6^2\omega_3 - 12\omega_4 v_2^2\omega_3^2 - 6cs^2\omega_6\omega_3^3 + 9\omega_4 cs^2\omega_6\omega_3^3 - 6\omega_4 cs^2\omega_3^3 - v_2^2\omega_6^2\omega_3^3 + \omega_4 v_2^2\omega_6^2\omega_3^3 - 6v_2^2\omega_6^2\omega_3^3 + 8\omega_4 v_2^2\omega_6^2\omega_3^3 + 12\omega_4 cs^2\omega_3^2 + 12\omega_4 cs^2\omega_6\omega_3 + 30\omega_4 v_2^2\omega_6\omega_3^2 - 12v_2^2\omega_6\omega_3^2 + 12\omega_4 cs^2\omega_6^2 + 12cs^2\omega_6^2\omega_3 - 30\omega_4 cs^2\omega_6^2\omega_3 - 9\omega_4 v_2^2\omega_6\omega_3^2 + 6v_2^2\omega_6\omega_3^2 - 2\omega_4 cs^2\omega_6^2\omega_3^2 + 3cs^2\omega_6^2\omega_3^2 + 24\omega_4 v_2^2\omega_6^2 + 22\omega_4 cs^2\omega_6^2\omega_3^2 - 18cs^2\omega_6^2\omega_3^2 - 12\omega_4 v_2^2\omega_6\omega_3$$

$$C_{42} = 2\omega_4^3 v_2^2\omega_3^2\omega_6^2 + 2\omega_4^3 v_2^2\omega_3^2\omega_6\omega_3^2 - 2\omega_4^3 cs^2\omega_3^2\omega_6\omega_3^2 + \omega_4 cs^2\omega_3^2\omega_6^2\omega_3^2 + 3v_2^2\omega_3^2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3 - 8\omega_4 v_2^2\omega_3^2\omega_6^2\omega_3^2 + 3\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3 - 10\omega_4^2 v_2^2\omega_3^2\omega_6^2\omega_3^2 + 6\omega_4^2 cs^2\omega_3^2\omega_6^2\omega_3^2 + 4\omega_4 v_2^2\omega_3^2\omega_6^2\omega_3^2 - 2\omega_4 cs^2\omega_3^2\omega_6^2\omega_3^2 + 6\omega_4^3 cs^2\omega_3^2\omega_6\omega_3^2 - 6\omega_4^3 v_2^2\omega_3^2\omega_6\omega_3^2 - 2\omega_4^2 cs^2\omega_3^2\omega_6^2\omega_3^2 + 7\omega_4^2 v_2^2\omega_3^2\omega_6^2\omega_3^2 + 3\omega_4^2 v_2^2\omega_2\omega_6^2\omega_3^2 + \omega_4^3 cs^2\omega_3^2\omega_3^2 + 7\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_3^2\omega_6\omega_3 + 2\omega_4^3 v_2^2\omega_3^2\omega_6\omega_3 + 3\omega_4^2 v_2^2\omega_3^2\omega_6^2\omega_3 - 2\omega_4^2 cs^2\omega_3^2\omega_6^2\omega_3 + 6\omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_3^2\omega_3^2 - 10\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_2^2\omega_6^3 - 8\omega_4^2 v_2^2\omega_2^2\omega_6^2\omega_3^2 + \omega_4^2 cs^2\omega_2^2\omega_6^2\omega_3^2 + 2\omega_4^3 v_2^2\omega_2^2\omega_6\omega_3^2 + \omega_4^3 cs^2\omega_2\omega_6^2\omega_3^2 - 2\omega_4^3 cs^2\omega_2^2\omega_6\omega_3^2 - 8\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3 + 2\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3^2 - \omega_4^3 v_2^2\omega_2^2\omega_6\omega_3^2 + 3\omega_4 v_2^2\omega_2^2\omega_6^2\omega_3^2 - 7\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3 + 6\omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3 + 3\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3 + 8\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3 - 6\omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3 - \omega_4^3 v_2^2\omega_2^2\omega_3^3 - \omega_4^2 v_2^2\omega_2^2\omega_6\omega_3^2 + \omega_4^2 cs^2\omega_2^2\omega_3^2\omega_6\omega_3^2 + \omega_4^3 cs^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^3 v_2^2\omega_2^2\omega_6^2\omega_3^2 - 2\omega_4^2 cs^2\omega_2^2\omega_3^2\omega_6\omega_3^2 + 2\omega_4^2 v_2^2\omega_2^2\omega_6\omega_3^2 + 2\omega_4^3 v_2^2\omega_2^2\omega_3^2$$

$$C_{43} = 12\omega_4^3 v_2^2\omega_6\omega_3 - 24\omega_4^2 cs^2\omega_6^2\omega_3 - 32\omega_4^3 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_3^2 + 24\omega_4^2 v_2^2\omega_6\omega_3^2 - 12\omega_4^2 v_2^2\omega_6\omega_3^2 + 4\omega_4^3 cs^2\omega_6^2\omega_3^2 + 6\omega_4^3 cs^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^2 - 30\omega_4 v_2^2\omega_6^2\omega_3^2 - 12\omega_4^2 cs^2\omega_6^2\omega_3^2 + 12\omega_4^3 v_2^2\omega_3^2 + 12\omega_4^3 v_2^2\omega_6\omega_3^2 + 36\omega_4^3 cs^2\omega_6^2\omega_3 + 24\omega_4 v_2^2\omega_6^2\omega_3^2 - 36\omega_4^3 v_2^2\omega_6\omega_3^2 + 48\omega_4^2 cs^2\omega_6^2\omega_3^2 - 6\omega_4^3 v_2^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6^3 + 16\omega_4^3 v_2^2\omega_6^2\omega_3^2 - 24\omega_4^2 cs^2\omega_6\omega_3^2 + 12\omega_4^2 cs^2\omega_6\omega_3^2 - 5\omega_4^3 v_2^2\omega_6^2\omega_3^2 + 6\omega_4 cs^2\omega_6^2\omega_3^2 + 24\omega_4^2 v_2^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6\omega_3^2 - 6\omega_4^3 v_2^2\omega_6^2\omega_3 - 12\omega_4 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6^2 + 36\omega_4^3 cs^2\omega_6\omega_3^2 - 36\omega_4^2 v_2^2\omega_6^2\omega_3^2$$

$$C_{44} = 6\omega_4\omega_3^2\omega_3^2 - 36\omega_4^3\omega_2^2\omega_3 + 24\omega_4^3\omega_2^2\omega_3^2 - 30\omega_4^3\omega_2^2\omega_3^2 + 12\omega_4^3\omega_3^3 - 30\omega_4\omega_2^2\omega_3^3 + 18\omega_4^3\omega_2^2\omega_3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^2\omega_2\omega_3^3 + 12\omega_4^3\omega_2^3 + 18\omega_4\omega_2^2\omega_3^3 + 28\omega_4^3\omega_2^3\omega_3^2 + 12\omega_4^2\omega_2^2\omega_3^2 - 42\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^2\omega_2^3\omega_3 + 12\omega_2^3\omega_3^3 + 6\omega_4^3\omega_2\omega_3^2 - 30\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^2\omega_3^3 - 30\omega_4^3\omega_2\omega_3^3$$

$$C_{45} = 12v_2^2\omega_2^3\omega_3^2 - 5v_2^2\omega_2^3\omega_6^2\omega_3^3 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 + 16v_2^2\omega_2^3\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 + 36cs^2\omega_2^3\omega_6^2\omega_3 - 6v_2^2\omega_2^3\omega_6^2\omega_3 - 12v_2^2\omega_2^2\omega_6\omega_3^3 - 12cs^2\omega_2\omega_6^2\omega_3^2 + 12cs^2\omega_2^2\omega_6\omega_3^3 + 24v_2^2\omega_2\omega_6^2\omega_3^2 - 30v_2^2\omega_2\omega_6^2\omega_3^3 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 + 24v_2^2\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 - 36v_2^2\omega_2^2\omega_6^2\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2^3\omega_3^3 + 12v_2^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 + 24v_2^2\omega_2^2\omega_6^2\omega_3^3 - 36v_2^2\omega_2^3\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 - 24cs^2\omega_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3^3 + 12v_2^2\omega_2^3\omega_6\omega_3^3$$

$$C_{46} = -24\omega_4^3 v_2^2\omega_6\omega_3 + 7\omega_4^3\omega_6^2\omega_3^2 - 12\omega_4^2 cs^2\omega_6^2\omega_3 - 36\omega_4^3 cs^2\omega_6^2\omega_3^2 - 36\omega_4^3 cs^2\omega_3^2 + 6\omega_4^3\omega_3^2 - \omega_4^3\omega_6^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_4^3 cs^2\omega_6^2\omega_3^3 + 18\omega_4^3 cs^2\omega_3^3 + 6v_2^2\omega_6^2\omega_3^3 - 12\omega_4 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^2 cs^2\omega_6^2\omega_3^3 + 12\omega_4^3 v_2^2\omega_3^2 + 6\omega_4^2\omega_6\omega_3^2 + 36\omega_4^3 cs^2\omega_6^2\omega_3 + 6\omega_4 v_2^2\omega_6^2\omega_3^2 - 6\omega_4^3\omega_6^2\omega_3 + 12\omega_4^3 v_2^2\omega_6\omega_3^2 - 3\omega_4^2\omega_6\omega_3^3 + 36\omega_4^2 cs^2\omega_6^2\omega_3^2 - 6\omega_4^3 v_2^2\omega_3^3 - 24\omega_4^3 cs^2\omega_6\omega_3 + 12\omega_4^3\omega_6\omega_3 - 6\omega_4^3 v_2^2\omega_6^2\omega_3^2 - 24\omega_4^2 cs^2\omega_6\omega_3^2 + \omega_4^2\omega_6^2\omega_3^3 - 3\omega_4^2\omega_6^2\omega_3^2 + 12\omega_4^2 cs^2\omega_6\omega_3^3 + 6\omega_4 cs^2\omega_6^2\omega_3^3 + 6\omega_4^3\omega_6\omega_3^3 + 6\omega_4^2 v_2^2\omega_6^2\omega_3^3 - 24\omega_4^3 cs^2\omega_6\omega_3^3 + 12\omega_4^3 v_2^2\omega_6^2\omega_3 - 21\omega_4^3\omega_6\omega_3^2 - 12\omega_4 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6^2 + 72\omega_4^3 cs^2\omega_6\omega_3^2 - 6\omega_4^3 v_2^2\omega_6^2\omega_3^2$$

$$C_{47} = 12\omega_4^3 v_2^2\omega_6\omega_3 + 3\omega_4^3\omega_6^2\omega_3^2 - 24\omega_4^2 cs^2\omega_6^2\omega_3 - 32\omega_4^3 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_3^2 - 24\omega_4^2 v_2^2\omega_6\omega_3^2 - \omega_4^3\omega_6^2\omega_3^3 + 12\omega_4^2 v_2^2\omega_6\omega_3^3 + 4\omega_4^3 cs^2\omega_6^2\omega_3^3 + 6\omega_4^3 cs^2\omega_3^3 + 12v_2^2\omega_6^2\omega_3^3 - 18\omega_4 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^2 cs^2\omega_6^2\omega_3^3 + 12\omega_4^3 v_2^2\omega_3^2 + 12\omega_4^2\omega_6\omega_3^2 + 36\omega_4^3 cs^2\omega_6^2\omega_3 - 12\omega_4^3 v_2^2\omega_6\omega_3^2 - 6\omega_4^2\omega_6\omega_3^3 + 48\omega_4^2 cs^2\omega_6^2\omega_3^2 - 6\omega_4^3 v_2^2\omega_3^3 - 12\omega_4^3 cs^2\omega_6\omega_3 - 12\omega_4^3 v_2^2\omega_6^2\omega_3^2 - 24\omega_4^2 cs^2\omega_6\omega_3^2 + 2\omega_4^2\omega_6^2\omega_3^3 - 24\omega_4^3 v_2^2\omega_6^2 - 6\omega_4^2\omega_6^2\omega_3^3 + 12\omega_4^2 cs^2\omega_6\omega_3^3 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 + 6\omega_4 cs^2\omega_6^2\omega_3^3 + 3\omega_4^3\omega_6\omega_3^3 - 12\omega_4^3 cs^2\omega_6\omega_3^3 + 30\omega_4^3 v_2^2\omega_6^2\omega_3 - 6\omega_4^3\omega_6\omega_3^2 - 12\omega_4 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6^2 + 36\omega_4^3 cs^2\omega_6\omega_3^2 + 12\omega_4^2 v_2^2\omega_6^2\omega_3^2$$

$$C_{48} = 96cs^2\omega_6\omega_3^2 - 6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 - 36\omega_6\omega_3^2 - 30cs^2\omega_6\omega_3^3 + 9\omega_6\omega_3^3 + 12\omega_3^2 + v_2^2\omega_6^2\omega_3^3 + 12v_2^2\omega_6^2 - 14v_2^2\omega_6^2\omega_3^2 + 24\omega_6\omega_3 - 36cs^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 + 18cs^2\omega_6^2\omega_3 + 12v_2^2\omega_3^2 - 6v_2^2\omega_6\omega_3^3 + 30cs^2\omega_3^3 + 4cs^2\omega_6^2\omega_3^3 - \omega_6^2\omega_3^3 - 26cs^2\omega_6^2\omega_3^2 - 60cs^2\omega_3^2 - 60v_2^2\omega_6\omega_3 + 11\omega_6^2\omega_3^2$$

$$C_{49} = -12\omega_7\omega_4^2 v_3^2 - 6\omega_4^3 cs^2\omega_2 - 30\omega_7^2\omega_4 cs^2\omega_2 - 18\omega_7^2\omega_4^2 cs^2 - 12\omega_7\omega_4 v_3^2\omega_2 + 12\omega_7^2\omega_4 v_3^2 - 12\omega_4^2 v_3^2\omega_2 + 12\omega_7^2 cs^2\omega_2 + 8\omega_7^2\omega_4^2 v_3^2\omega_2 + 3\omega_7^2\omega_4^3 cs^2 - 30\omega_7\omega_4^2 cs^2\omega_2 + 6\omega_7\omega_4^3 v_3^2 - 9\omega_7\omega_4^3 v_3^2\omega_2 - 2\omega_7^2\omega_4^3 cs^2\omega_2 - 36\omega_7^2\omega_4 v_3^2\omega_2 + 6\omega_4^3 v_3^2\omega_2 - \omega_7^2\omega_4^3 v_3^2 + 12\omega_7\omega_4 cs^2\omega_2 - 6\omega_7\omega_4^3 cs^2 + 12\omega_4^2 cs^2\omega_2 + 12\omega_7\omega_4^2 cs^2 + 22\omega_7^2\omega_4^2 cs^2\omega_2 - 6\omega_7^2\omega_4^2 v_3^2 + 24\omega_7^2 v_3^2\omega_2 + 30\omega_7\omega_4^2 v_3^2\omega_2 + 12\omega_7^2\omega_4 cs^2 + 9\omega_7\omega_4^3 cs^2\omega_2 + \omega_7^2\omega_4^3 v_3^2\omega_2$$

$$C_{50} = -2\omega_7^2\omega_4^2 cs^2 v_3^2\omega_5^2\omega_2^2 - 4\omega_7^2\omega_4 cs^2 v_1^2\omega_5^2\omega_2^2 - 2\omega_4^3 v_1^2 v_3^2\omega_5^2\omega_2^2 + 12\omega_7^2\omega_4 v_1^2 v_3^2\omega_5^2\omega_2^2 + 2\omega_4^3 cs^2 v_1^2\omega_5^2\omega_2^2 + 4\omega_7^2\omega_4^3 v_1^2 v_3^2\omega_2^2 - 2\omega_7^2\omega_4^2 cs^4\omega_5\omega_2^2 - 4\omega_7^2\omega_4^3 cs^2 v_3^2\omega_2^2 - 10\omega_7^2\omega_4^3 v_1^2 v_3^2\omega_5\omega_2^2 - 4\omega_7^2 cs^2 v_1^2\omega_5^2\omega_2^3 + 2\omega_7^2\omega_4^3 cs^2 v_1^2\omega_5\omega_2^2 + 4\omega_7^2 v_1^2 v_3^2\omega_5^2\omega_2^3 + 10\omega_7^2\omega_4^3 cs^2 v_3^2\omega_5\omega_2^2 + 14\omega_7^2\omega_4^2 v_1^2 v_3^2\omega_5^2\omega_2^2 -$$

$$8\omega_7^2\omega_4^2cs^2v_1^2\omega_5^2\omega_2^3-\omega_7^2\omega_4^3cs^2v_1^2\omega_5\omega_2^3+4\omega_7^2\omega_4^3v_1^2v_3^2\omega_5^2+4\omega_7^2\omega_4^2cs^4\omega_5\omega_2^2+2\omega_7^2\omega_4^3cs^2v_3^2\omega_2^3+3\omega_7^2\omega_4^3v_1^2v_3^2\omega_5\omega_2^3-14\omega_7^2\omega_4v_1^2v_3^2\omega_5^2\omega_2^3-2\omega_7^2\omega_4^3v_1^2v_3^2\omega_2^3+8\omega_7^2\omega_4^2cs^2v_3^2\omega_5^2\omega_2^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2+10\omega_7^2\omega_4cs^2v_1^2\omega_5^2\omega_2^3+8\omega_7^2\omega_4^2cs^2v_1^2\omega_5^2\omega_2^2-28\omega_7^2\omega_4^2v_1^2v_3^2\omega_5^2\omega_2^2-3\omega_7^2\omega_4^3cs^2v_3^2\omega_5\omega_2^3+12\omega_7^2\omega_4^2v_1^2v_3^2\omega_5^2\omega_2-2\omega_7^2\omega_4^3cs^4\omega_5\omega_2^2-4\omega_7\omega_4^2cs^2v_3^2\omega_5^2\omega_2^2-4\omega_7\omega_4cs^2v_1^2\omega_5^2\omega_2^3+4\omega_7\omega_4v_1^2v_3^2\omega_5^2\omega_2^3+4\omega_7\omega_4^2v_1^2v_3^2\omega_5^2\omega_2^2-4\omega_7\omega_4^2cs^2v_1^2\omega_5^2\omega_2^2+4\omega_7^2\omega_4cs^4\omega_5^2\omega_2^2-4\omega_7^2\omega_4^2cs^2v_3^2\omega_5^2\omega_2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_5\omega_2+2\omega_7\omega_4^2cs^2v_3^2\omega_5^2\omega_2^3+\omega_7^2\omega_4^3cs^4\omega_5\omega_2^3-2\omega_7^2\omega_4cs^4\omega_5^2\omega_2^3+4\omega_7^2\omega_4^3v_1^2v_3^2\omega_5\omega_2+10\omega_7\omega_4^2cs^2v_1^2\omega_5^2\omega_2^3-10\omega_7\omega_4^2v_1^2v_3^2\omega_5^2\omega_2^3-\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^3+10\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2-2\omega_7\omega_4^3v_1^2v_3^2\omega_5^2\omega_2^2+2\omega_7\omega_4^3cs^2v_1^2\omega_5^2\omega_2^2+2\omega_7\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2-2\omega_7\omega_4^3cs^4\omega_5^2\omega_2^2-14\omega_7^2\omega_4^3v_1^2v_3^2\omega_5^2\omega_2-3\omega_7\omega_4^3cs^2v_1^2\omega_5^2\omega_2^3+3\omega_7\omega_4^3v_1^2v_3^2\omega_5^2\omega_2^3+4\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^2+4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^2+\omega_7\omega_4^3cs^4\omega_5^2\omega_2^3-\omega_7\omega_4^3cs^2v_3^2\omega_5^2\omega_2^3-3\omega_7^2\omega_4^3v_1^2v_3^2\omega_5^2\omega_2^3-12\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^2+\omega_7^2\omega_4^3cs^2v_1^2\omega_5^2\omega_2^3-4\omega_7^2\omega_4^2cs^2v_3^2\omega_5\omega_2^2+4\omega_7^2\omega_4^2v_1^2v_3^2\omega_5\omega_2^2-4\omega_7^2\omega_4^2cs^2v_1^2\omega_5\omega_2^2+4\omega_7^2v_1^2v_3^2\omega_5^2\omega_2^3+\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2^3-2\omega_7^2\omega_4^3cs^2v_1^2\omega_5^2\omega_2^2+14\omega_7^2\omega_4^3v_1^2v_3^2\omega_5^2\omega_2^2+4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^3+4\omega_7\omega_4^2cs^4\omega_5^2\omega_2^2-8\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2+2\omega_7^2\omega_4^2cs^2v_1^2\omega_5\omega_2^3-2\omega_7^2\omega_4^2v_1^2v_3^2\omega_5\omega_2^3$$

$$C_{51}=-6\omega_7^2\omega_4^3cs^2\omega_2^2+24\omega_7\omega_4^2cs^2\omega_2^3+22\omega_7^2\omega_4^2v_3^2\omega_2^3-12\omega_7^2cs^2\omega_2^3+\omega_7^2\omega_4^3cs^2\omega_2^3+6\omega_7\omega_4^3v_3^2\omega_2^3-48\omega_7^2\omega_4^2v_3^2\omega_2^2+12\omega_7\omega_4v_3^2\omega_2^3+24\omega_7^2\omega_4^2v_3^2\omega_2+24\omega_7^2\omega_4cs^2\omega_2^3+6\omega_4^3cs^2\omega_2^3+12\omega_4^2v_3^2\omega_2^3+6\omega_7^2\omega_4^3cs^2\omega_2+22\omega_7^2\omega_4^3v_3^2\omega_2^2-24\omega_7\omega_4^2v_3^2\omega_2^3+12\omega_7^2\omega_4^3v_3^2-14\omega_7^2\omega_4^2cs^2\omega_2^2-4\omega_7^2\omega_4^3v_3^2\omega_2^2-6\omega_7\omega_4^3cs^2\omega_2^3+12\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2-12\omega_7\omega_4cs^2\omega_2^3-6\omega_4^3v_3^2\omega_2^3-18\omega_7^2\omega_4v_3^2\omega_2^3-12\omega_4^2cs^2\omega_2^3+24\omega_7^2\omega_4v_3^2\omega_2^2-30\omega_7^2\omega_4^3v_3^2\omega_2$$

$$C_{52}=22\omega_4^3v_1^2\omega_5^2\omega_2^2-14\omega_4^3cs^2\omega_5^2\omega_2^2+24\omega_4^2v_1^2\omega_5^2\omega_2+\omega_4^3cs^2\omega_5^2\omega_2^3-4\omega_4^3v_1^2\omega_5^2\omega_2^3+22\omega_4^2v_1^2\omega_5^2\omega_2^3-6\omega_4^2cs^2\omega_5^2\omega_2^3-12\omega_4^3cs^2\omega_5^2+6\omega_4^3cs^2\omega_2^3-6\omega_4^3v_1^2\omega_2^3+12\omega_4^2cs^2\omega_5^2\omega_2^2-48\omega_4^2v_1^2\omega_5^2\omega_2^2+12\omega_4^3v_1^2\omega_2^2-18\omega_4^3v_1^2\omega_5^2\omega_2-12\omega_4^3cs^2\omega_2^2+24\omega_4^3cs^2\omega_5^2\omega_2+12\omega_4^3v_1^2\omega_5\omega_2-12\omega_4^3cs^2\omega_5\omega_2-6\omega_4^3cs^2\omega_5\omega_2^3+6\omega_4^3v_1^2\omega_5\omega_2^3+6\omega_4cs^2\omega_5^2\omega_2^3+12v_1^2\omega_5^2\omega_2^3-30\omega_4v_1^2\omega_5^2\omega_2^3-24\omega_4^3v_1^2\omega_5\omega_2^2+24\omega_4^3cs^2\omega_5\omega_2^2+24\omega_4v_1^2\omega_5^2\omega_2^2-12\omega_4cs^2\omega_5^2\omega_2^2$$

$$C_{53}=-9\omega_7\omega_4^3v_3^2\omega_3-12\omega_7\omega_4^2v_3^2-18\omega_7^2\omega_4^2cs^2-2\omega_7^2\omega_4^3cs^2\omega_3+12\omega_7^2cs^2\omega_3+8\omega_7^2\omega_4^2v_3^2\omega_3+12\omega_7^2\omega_4v_3^2-30\omega_7\omega_4^2cs^2\omega_3+3\omega_7^2\omega_4^3cs^2-12\omega_4^2v_3^2\omega_3+6\omega_7\omega_4^3v_3^2-6\omega_4^3cs^2\omega_3-30\omega_7^2\omega_4cs^2\omega_3-12\omega_7\omega_4v_3^2\omega_3+9\omega_7\omega_4^3cs^2\omega_3-\omega_7^2\omega_4^3v_3^2+\omega_7^2\omega_4^3v_3^2\omega_3-6\omega_7\omega_4^3cs^2+22\omega_7^2\omega_4^2cs^2\omega_3+24\omega_7^2v_3^2\omega_3+30\omega_7\omega_4^2v_3^2\omega_3+12\omega_7\omega_4^2cs^2-6\omega_7^2\omega_4^2v_3^2+12\omega_4^2cs^2\omega_3-36\omega_7^2\omega_4v_3^2\omega_3+6\omega_4^3v_3^2\omega_3+12\omega_7^2\omega_4cs^2+12\omega_7\omega_4cs^2\omega_3$$

$$C_{54}=\omega_7^2\omega_4^3cs^2\omega_2\omega_3^3+3\omega_7^2\omega_4v_3^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^3-2\omega_7^2\omega_4cs^2\omega_2^2\omega_3^3+2\omega_4^2v_3^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^3-2\omega_4^2cs^2\omega_2^2\omega_3^3-\omega_4^3v_3^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4cs^2\omega_2^2\omega_3^3+\omega_4^3cs^2\omega_2^2\omega_3^3-7\omega_7^2\omega_4v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2\omega_3^3+2\omega_7\omega_4v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4cs^2\omega_2^2\omega_3^3+4\omega_7^2\omega_4^2v_3^2\omega_2\omega_3^3-2\omega_7\omega_4cs^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4v_3^2\omega_2^2\omega_3^3-2\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3+6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3+7\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3+4\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3+2\omega_7\omega_4^3v_3^2\omega_2^2\omega_3^3-10\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3+2\omega_7\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3-2\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3+4\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3-\omega_7\omega_4^3v_3^2\omega_2^2\omega_3^3-2\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3-\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3-2\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3+7\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^3-6\omega_7\omega_4^2v_3^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3$$

$$C_{55}=12\omega_4^2v_3^2\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3-24\omega_7^2\omega_4cs^2\omega_3^2+12\omega_7\omega_4v_3^2\omega_3^3+24\omega_7^2\omega_4^2v_3^2\omega_3+36\omega_7^2\omega_4cs^2\omega_3^2+6\omega_4^3cs^2\omega_3^2-24\omega_7\omega_4^2cs^2\omega_3^2+4\omega_7^2\omega_4^3cs^2\omega_3^2-36\omega_7^2\omega_4^2v_3^2\omega_3^2+12\omega_7\omega_4^3v_3^2\omega_3^3+36\omega_7^2\omega_4cs^2\omega_3^2-12\omega_7^2\omega_4^3cs^2\omega_3^2+16\omega_7^2\omega_4^2v_3^2\omega_3^2-12\omega_7\omega_4^3v_3^2\omega_3^2-12\omega_7^2cs^2\omega_3^2-12\omega_4^2cs^2\omega_3^2+12\omega_7^2\omega_4^3v_3^2-30\omega_7^2\omega_4^3v_3^2\omega_3-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^2-6\omega_4^3v_3^2\omega_3^2-6\omega_7^2\omega_4v_3^2\omega_3^2+24\omega_7\omega_4^2v_3^2\omega_3^2-5\omega_7^2\omega_4^3v_3^2\omega_3^2+48\omega_7^2\omega_4^2cs^2\omega_3^2-12\omega_7\omega_4^3cs^2\omega_3^2-36\omega_7\omega_4^2v_3^2\omega_3^2+24\omega_7^2\omega_4^3v_3^2\omega_3^2-32\omega_7^2\omega_4^2cs^2\omega_3^2+12\omega_7\omega_4^3cs^2\omega_3^2$$

$$C_{56}=-12\omega_7^2\omega_4^3cs^2\omega_2^2+36\omega_7\omega_4^2cs^2\omega_2^3-12\omega_7\omega_4^3v_3^2\omega_2^2+16\omega_7^2\omega_4^2v_3^2\omega_2^3-12\omega_7^2cs^2\omega_2^3+4\omega_7^2\omega_4^3cs^2\omega_2^3-24\omega_7\omega_4^2cs^2\omega_2^2+12\omega_7\omega_4^3v_3^2\omega_2^3-36\omega_7^2\omega_4^2v_3^2\omega_2^2+12\omega_7\omega_4v_3^2\omega_2^3+24\omega_7^2\omega_4^2v_3^2\omega_2+36\omega_7^2\omega_4cs^2\omega_2^3+6\omega_4^3cs^2\omega_2^3+12\omega_4^2v_3^2\omega_2^3+6\omega_7^2\omega_4^3cs^2\omega_2-24\omega_7^2\omega_4cs^2\omega_2^2+24\omega_7^2\omega_4^3v_3^2\omega_2^2-36\omega_7\omega_4^2v_3^2\omega_2^2+12\omega_7^2\omega_4^3v_3^2+12\omega_7\omega_4^3cs^2\omega_2^2-32\omega_7^2\omega_4^2cs^2\omega_2^2-5\omega_7^2\omega_4^3v_3^2\omega_2^2+24\omega_7\omega_4^2v_3^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^3+48\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7^2\omega_4^2cs^2\omega_2-12\omega_7\omega_4cs^2\omega_2^3-6\omega_4^3v_3^2\omega_2^3-6\omega_7^2\omega_4v_3^2\omega_2^3-12\omega_4^2cs^2\omega_2^3-30\omega_7^2\omega_4^3v_3^2\omega_2$$

$$C_{57}=18\omega_4\omega_2^3\omega_3^3-30\omega_4^3\omega_2^3\omega_3+24\omega_4^3\omega_2^2\omega_3^3-42\omega_4^3\omega_2^2\omega_3^2+12\omega_4^3\omega_3^3-36\omega_4\omega_3^3\omega_3^3+18\omega_4^3\omega_2^2\omega_3-5\omega_4^3\omega_2^3\omega_3^3+6\omega_4^2\omega_2\omega_3^3+12\omega_4^3\omega_2^2+18\omega_4\omega_2^2\omega_3^3+24\omega_4^3\omega_2^3\omega_3^2+12\omega_4^2\omega_2^2\omega_3^2-30\omega_4^2\omega_2^2\omega_3^3+6\omega_4^2\omega_2^3\omega_3+12\omega_2^2\omega_3^3+18\omega_4^3\omega_2\omega_3^2-30\omega_4^2\omega_2^3\omega_3^2+28\omega_4^2\omega_2^2\omega_3^3-30\omega_4^3\omega_2\omega_3^3$$

$$C_{58}=12\omega_7^2\omega_4v_2^2v_3^2\omega_6^2\omega_3^3-2\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3+4\omega_7^2v_2^2v_3^2\omega_6^2\omega_3^3+10\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^3-8\omega_7^2\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3-10\omega_7^2\omega_4^3v_2^2v_3^2\omega_6\omega_3^3-2\omega_7^2\omega_4^2cs^4\omega_6\omega_3^3-4\omega_7^2\omega_4v_2^2cs^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^3v_2^2v_3^2\omega_6^2+2\omega_4^3v_2^2cs^2\omega_6^2\omega_3^3-4\omega_7^2v_2^2cs^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3+2\omega_7^2\omega_4^3v_2^2cs^2\omega_6\omega_3^3+14\omega_7^2\omega_4^2v_2^2v_3^2\omega_6^2\omega_3^3+3\omega_7^2\omega_4^3v_2^2v_3^2\omega_6\omega_3^3+8\omega_7^2\omega_4^2v_2^2cs^2\omega_6^2\omega_3^2-3\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^3-14\omega_7^2\omega_4v_2^2v_3^2\omega_6^2\omega_3^3-28\omega_7^2\omega_4^2v_2^2v_3^2\omega_6^2\omega_3^2-\omega_7^2\omega_4^3v_2^2cs^2\omega_6\omega_3^3+8\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3^2+10\omega_7^2\omega_4v_2^2cs^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6\omega_3^2+4\omega_7^2\omega_4cs^4\omega_6^2\omega_3^3+2\omega_7^2\omega_4^3cs^2v_3^2\omega_3^3+12\omega_7^2\omega_4^2v_2^2v_3^2\omega_6^2\omega_3-4\omega_7\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3+4\omega_7\omega_4v_2^2v_3^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3cs^4\omega_6\omega_3^2-4\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^2+\omega_7^2\omega_4^3cs^4\omega_6\omega_3^3-2\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3-10\omega_7\omega_4^2v_2^2v_3^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3+2\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^3v_2^2v_3^2\omega_6\omega_3+\omega_7^2\omega_4^3cs^4\omega_6\omega_3^3-2\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3+2\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3-2\omega_7\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2-14\omega_7^2\omega_4^3v_2^2v_3^2\omega_6^2\omega_3-\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3+10\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3+2\omega_7\omega_4^3v_2^2cs^2\omega_6^2\omega_3^3+3\omega_7\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3-\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3+\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3-3\omega_7\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2+\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3-3\omega_7^2\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3-2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3-4\omega_7^2\omega_4^2v_2^2cs^2\omega_6\omega_3^3-4\omega_7^2\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3+4\omega_7^2\omega_4^2v_2^2v_3^2\omega_6\omega_3^3+\omega_7^2\omega_4^3v_2^2cs^2\omega_6^2\omega_3^3-12\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2+4\omega_7^2v_2^2v_3^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^2v_2^2cs^2\omega_6\omega_3^3+4\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3+14\omega_7^2\omega_4^3v_2^2v_3^2\omega_6^2\omega_3^3-8\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2+4\omega_7^2\omega_4^3v_2^2v_3^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^3-2\omega_7^2\omega_4^3v_2^2cs^2\omega_6^2\omega_3^2-2\omega_7^2\omega_4^2v_2^2v_3^2\omega_6\omega_3^3+2\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3$$

$$C_{59}=12\omega_4^2v_3^2\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3+12\omega_7\omega_4v_3^2\omega_3^3+24\omega_7^2\omega_4^2v_3^2\omega_3+24\omega_7^2\omega_4cs^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_3^3-48\omega_7^2\omega_4^2v_3^2\omega_3^2+6\omega_7\omega_4^3v_3^2\omega_3^3+24\omega_7\omega_4^2cs^2\omega_3^3-6\omega_7^2\omega_4^3cs^2\omega_3^2+22\omega_7^2\omega_4^2v_3^2\omega_3^3-12\omega_7^2cs^2\omega_3^3-12\omega_4^2cs^2\omega_3^3+24\omega_7^2\omega_4v_3^2\omega_3^2+12\omega_7^2\omega_4^3v_3^2-30\omega_7^2\omega_4^3v_3^2\omega_3-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^3-6\omega_4^3v_3^2\omega_3^3-18\omega_7^2\omega_4v_3^2\omega_3^3-4\omega_7^2\omega_4^3v_3^2\omega_3^3+12\omega_7^2\omega_4^2cs^2\omega_3^2-6\omega_7\omega_4^3cs^2\omega_3^3-24\omega_7\omega_4^2v_3^2\omega_3^3+22\omega_7^2\omega_4^3v_3^2\omega_3^2-14\omega_7^2\omega_4^2cs^2\omega_3^3$$

$$C_{60}=12\omega_4^3v_2^2\omega_6\omega_3-14\omega_4^3cs^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_3^2+\omega_4^3cs^2\omega_6^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+12v_2^2\omega_6^2\omega_3^3-30\omega_4v_2^2\omega_6^2\omega_3^3-6\omega_4^2cs^2\omega_6^2\omega_3^3+12\omega_4^3v_2^2\omega_3^2+6\omega_4^3v_2^2\omega_6\omega_3^3+24\omega_4^3cs^2\omega_6^2\omega_3+24\omega_4v_2^2\omega_6^2\omega_3^2-24\omega_4^3v_2^2\omega_6\omega_3^2+12\omega_4^2cs^2\omega_6^2\omega_3^2-6\omega_4^3v_2^2\omega_3^3-12\omega_4^3cs^2\omega_6\omega_3+24\omega_4^2v_2^2\omega_6^2\omega_3+22\omega_4^3v_2^2\omega_6^2\omega_3^2-4\omega_4^3v_2^2\omega_6^2\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3+22\omega_4^2v_2^2\omega_6^2\omega_3^3-6\omega_4^3cs^2\omega_6\omega_3^3-18\omega_4^3v_2^2\omega_6^2\omega_3-12\omega_4cs^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_6^2+24\omega_4^3cs^2\omega_6\omega_3^2-48\omega_4^2v_2^2\omega_6^2\omega_3^2$$

$$C_{61}=-108\omega_7\omega_4^2v_3^2-36\omega_7^2v_3^2+25\omega_7^2\omega_4^2cs^2-24\omega_7\omega_4+24\omega_7\omega_4cs^2-18\omega_4^3v_3^2+18\omega_7^2\omega_4v_3^2-9\omega_7\omega_4^3-2\omega_7^2\omega_4^3cs^2+27\omega_7\omega_4^3v_3^2+36\omega_4^2v_3^2+36\omega_7\omega_4^2-3\omega_7^2\omega_4^3v_3^2-12\omega_4^2+9\omega_7\omega_4^3cs^2-11\omega_7^2\omega_4^2+6\omega_4^3+12\omega_4^2cs^2+\omega_7^2\omega_4^3-36\omega_7\omega_4^2cs^2+15\omega_7^2\omega_4^2v_3^2+24\omega_7^2cs^2+72\omega_7\omega_4v_3^2+12\omega_7^2\omega_4-48\omega_7^2\omega_4cs^2-6\omega_4^3cs^2$$

$C_{62} = -12\omega_7^2\omega_4^3cs^2\omega_2^2 + 72\omega_7\omega_4^2cs^2\omega_2^3 + 6\omega_4^2\omega_2^3 - 3\omega_7\omega_4^3\omega_2^2 - 6\omega_7^2\omega_4^2v_3^2\omega_2^3 - 12\omega_7^2cs^2\omega_2^3 + 6\omega_7\omega_4^3\omega_2^3 + 6\omega_7^2\omega_4^3cs^2\omega_2^3 - 24\omega_7\omega_4^2cs^2\omega_2^2 - 6\omega_7^2\omega_4^2v_3^2\omega_2^2 - 24\omega_7\omega_4v_3^2\omega_2^3 + 6\omega_7^2\omega_4^2v_3^2\omega_2 + 6\omega_7\omega_4^2\omega_2^2 + 36\omega_7^2\omega_4cs^2\omega_2^3 - 3\omega_4^3\omega_2^3 - 6\omega_7^2\omega_4\omega_2^3 + 18\omega_4^3cs^2\omega_2^3 + 12\omega_4^2v_3^2\omega_2^3 + 6\omega_7^2\omega_4^3cs^2\omega_2 - 21\omega_7\omega_4^2\omega_2^3 - 12\omega_7^2\omega_4cs^2\omega_2^2 + 6\omega_7^2\omega_4^3v_3^2\omega_2^2 + 12\omega_7\omega_4^2v_3^2\omega_2^3 + 6\omega_7^2\omega_4^3v_3^2 + 12\omega_7\omega_4\omega_2^3 + 12\omega_7\omega_4^3cs^2\omega_2^2 - 3\omega_7^2\omega_4^3\omega_2^2 - 36\omega_7^2\omega_4^2cs^2\omega_2^3 + 7\omega_7^2\omega_4^2\omega_2^3 - 24\omega_7\omega_4^3cs^2\omega_2^3 + 36\omega_7^2\omega_4^2cs^2\omega_2^2 - 12\omega_7^2\omega_4^2cs^2\omega_2 + \omega_7^2\omega_4^3\omega_2^2 - 24\omega_7\omega_4cs^2\omega_2^3 - 6\omega_4^3v_3^2\omega_2^3 + 12\omega_7^2\omega_4v_3^2\omega_2^3 - \omega_7^2\omega_4^3\omega_2^3 - 36\omega_4^2cs^2\omega_2^3 - 12\omega_7^2\omega_4^3v_3^2\omega_2$

$C_{63} = 48\omega_7\omega_4^2v_3^2 + 12\omega_7^2v_3^2 - 26\omega_7^2\omega_4^2cs^2 + 24\omega_7\omega_4 - 36\omega_7\omega_4cs^2 - 6\omega_4^3v_3^2 + 12\omega_7^2\omega_4v_3^2 + 9\omega_7\omega_4^3 + 4\omega_7^2\omega_4^3cs^2 - 6\omega_7\omega_4^3v_3^2 + 12\omega_4^2v_3^2 - 36\omega_7\omega_4^2 + \omega_7^2\omega_4^3v_3^2 + 12\omega_4^2 - 30\omega_7\omega_4^3cs^2 + 11\omega_7^2\omega_4^2 - 6\omega_4^3 - 60\omega_4^2cs^2 - \omega_7^2\omega_4^3 + 96\omega_7\omega_4^2cs^2 - 14\omega_7^2\omega_4^2v_3^2 - 60\omega_7\omega_4v_3^2 - 12\omega_7^2\omega_4 + 18\omega_7^2\omega_4cs^2 + 30\omega_4^3cs^2$

$C_{64} = -12\omega_7^2\omega_4^3cs^2\omega_2^2 + 36\omega_7\omega_4^2cs^2\omega_2^3 - 6\omega_7\omega_4^3\omega_2^2 + 12\omega_7\omega_4^3v_3^2\omega_2^2 - 12\omega_7^2\omega_4^2v_3^2\omega_2^3 - 12\omega_7^2cs^2\omega_2^3 + 3\omega_7\omega_4^3\omega_2^3 + 4\omega_7^2\omega_4^3cs^2\omega_2^3 - 24\omega_7\omega_4^2cs^2\omega_2^2 + 12\omega_7^2\omega_4^2v_3^2\omega_2^2 + 12\omega_7\omega_4v_3^2\omega_2^3 + 12\omega_7\omega_4^2\omega_2^2 + 36\omega_7^2\omega_4cs^2\omega_2^3 + 6\omega_4^3cs^2\omega_2^3 + 12\omega_4^2v_3^2\omega_2^3 + 6\omega_7^2\omega_4^3cs^2\omega_2 - 6\omega_7\omega_4^2\omega_2^3 - 24\omega_7^2\omega_4cs^2\omega_2^2 - 12\omega_7\omega_4^2v_3^2\omega_2^3 - 24\omega_7^2v_3^2\omega_2^3 + 12\omega_7^2\omega_4^3v_3^2 + 12\omega_7\omega_4^3cs^2\omega_2^2 - 6\omega_7^2\omega_4^2\omega_2^2 - 32\omega_7^2\omega_4^2cs^2\omega_2^3 + 3\omega_7^2\omega_4^3v_3^2\omega_2^3 - 24\omega_7\omega_4^2v_3^2\omega_2^2 + 3\omega_7^2\omega_4^2\omega_2^3 - 12\omega_7\omega_4^3cs^2\omega_2^3 + 48\omega_7^2\omega_4^2cs^2\omega_2^2 - 12\omega_7^2\omega_4^2cs^2\omega_2 + 2\omega_7^2\omega_4^3\omega_2^2 - 12\omega_7\omega_4cs^2\omega_2^3 - 6\omega_4^3v_3^2\omega_2^3 + 30\omega_7^2\omega_4v_3^2\omega_2^3 - \omega_7^2\omega_4^3\omega_2^3 - 12\omega_4^2cs^2\omega_2^3 - 18\omega_7^2\omega_4^3v_3^2\omega_2$

$C_{65} = 12\omega_4^2v_3^2\omega_3^3 + 6\omega_7^2\omega_4^3cs^2\omega_3 - 12\omega_7^2\omega_4cs^2\omega_3^2 - 21\omega_7\omega_4^2\omega_3^3 - 24\omega_7\omega_4v_3^2\omega_3^3 + 6\omega_7^2\omega_4^2v_3^2\omega_3 - 6\omega_7^2\omega_4\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_7\omega_4^2\omega_3^3 + 18\omega_4^3cs^2\omega_3^3 + 6\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^3 + 6\omega_7^2\omega_4^3cs^2\omega_3^3 - 6\omega_7^2\omega_4^2v_3^2\omega_3^3 + 72\omega_7\omega_4^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^3 - 3\omega_7\omega_4^3\omega_3^3 + 6\omega_4^2\omega_3^3 - 6\omega_7^2\omega_4^2v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 36\omega_4^2cs^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 + 6\omega_7^2\omega_4^3v_3^2 - 12\omega_7^2\omega_4^3v_3^2\omega_3 + \omega_7^2\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 24\omega_7\omega_4cs^2\omega_3^3 - 6\omega_4^3v_3^2\omega_3^3 + 12\omega_7^2\omega_4v_3^2\omega_3^3 + 36\omega_7^2\omega_4^2cs^2\omega_3^2 + 7\omega_7^2\omega_4^2\omega_3^3 - 24\omega_7\omega_4^3cs^2\omega_3^3 + 12\omega_7\omega_4^2v_3^2\omega_3^3 + 6\omega_7^2\omega_4^3v_3^2\omega_3^2 - 36\omega_7^2\omega_4^2cs^2\omega_3^3 + 12\omega_7\omega_4^3cs^2\omega_3^2 - 3\omega_7^2\omega_4^2\omega_3^3 + 12\omega_7\omega_4\omega_3^3$

$C_{66} = 48\omega_7\omega_4^2v_3^2 + 12\omega_7^2v_3^2 - 26\omega_7^2\omega_4^2cs^2 + 24\omega_7\omega_4 - 36\omega_7\omega_4cs^2 - 6\omega_4^3v_3^2 + 12\omega_7^2\omega_4v_3^2 + 9\omega_7\omega_4^3 + 4\omega_7^2\omega_4^3cs^2 - 6\omega_7\omega_4^3v_3^2 + 12\omega_4^2v_3^2 - 36\omega_7\omega_4^2 + \omega_7^2\omega_4^3v_3^2 + 12\omega_4^2 - 30\omega_7\omega_4^3cs^2 + 11\omega_7^2\omega_4^2 - 6\omega_4^3 - 60\omega_4^2cs^2 - \omega_7^2\omega_4^3 + 96\omega_7\omega_4^2cs^2 - 14\omega_7^2\omega_4^2v_3^2 - 60\omega_7\omega_4v_3^2 - 12\omega_7^2\omega_4 + 18\omega_7^2\omega_4cs^2 + 30\omega_4^3cs^2$

$C_{67} = 12\omega_4^2v_3^2\omega_3^3 + 6\omega_7^2\omega_4^3cs^2\omega_3 - 24\omega_7^2\omega_4cs^2\omega_3^2 - 6\omega_7\omega_4^2\omega_3^3 + 12\omega_7\omega_4v_3^2\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 + 12\omega_7\omega_4^2\omega_3^3 + 6\omega_4^3cs^2\omega_3^3 + 3\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^3 + 4\omega_7^2\omega_4^3cs^2\omega_3^3 + 12\omega_7^2\omega_4^2v_3^2\omega_3^3 + 36\omega_7\omega_4^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^3 - 6\omega_7\omega_4^3\omega_3^3 - 12\omega_7^2\omega_4^2v_3^2\omega_3^3 + 12\omega_7\omega_4^3v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 12\omega_4^2cs^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 + 12\omega_7^2\omega_4^3v_3^2 - 18\omega_7^2\omega_4^3v_3^2\omega_3 + 2\omega_7^2\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 12\omega_7\omega_4cs^2\omega_3^3 - 6\omega_4^3v_3^2\omega_3^3 + 30\omega_7^2\omega_4v_3^2\omega_3^3 - 24\omega_7\omega_4^2v_3^2\omega_3^2 + 3\omega_7^2\omega_4^3v_3^2\omega_3^3 + 48\omega_7^2\omega_4^2cs^2\omega_3^2 + 3\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7\omega_4^3cs^2\omega_3^3 - 12\omega_7\omega_4^2v_3^2\omega_3^3 - 24\omega_7^2v_3^2\omega_3^3 - 32\omega_7^2\omega_4^2cs^2\omega_3^3 + 12\omega_7\omega_4^3cs^2\omega_3^2 - 6\omega_7^2\omega_4^2\omega_3^3$

$C_{68} = -72\omega_7\omega_4^2v_3^2 - 8\omega_7^2\omega_4^2cs^2 - 24\omega_7\omega_4^2cs^4 - 12\omega_7^2\omega_4^2v_3^4 + 24\omega_7^2cs^4 + 108\omega_4^3cs^2v_3^2 - 24\omega_7\omega_4cs^2 - 36\omega_7^2\omega_4cs^2v_3^2 - 36\omega_4^3v_3^2 - 48\omega_7^2\omega_4cs^4 + 3\omega_7^2\omega_4^3v_3^4 + 6\omega_7\omega_4^3cs^4 + 6\omega_7^2\omega_4^3cs^2v_3^2 + \omega_7^2\omega_4^3cs^2 + 30\omega_7\omega_4^3v_3^2 + 72\omega_4^2v_3^2 + 144\omega_7\omega_4^2cs^2v_3^2 - 3\omega_7^2\omega_4^3cs^4 - 30\omega_7\omega_4^3v_3^4 - 3\omega_7^2\omega_4^3v_3^2 - 216\omega_4^2cs^2v_3^2 - 6\omega_7\omega_4^3cs^2 - 72\omega_4^2v_3^4 + 72\omega_7\omega_4cs^2v_3^2 + 24\omega_7\omega_4^2cs^2 + 12\omega_7^2\omega_4^2v_3^2 - 72\omega_7\omega_4^3cs^2v_3^2 + 72\omega_7\omega_4^2v_3^4 + 24\omega_7^2\omega_4^2cs^4 - 12\omega_7^2\omega_4^2cs^2v_3^2 + 12\omega_7^2\omega_4cs^2 + 24\omega_7\omega_4cs^4 + 36\omega_4^3v_3^4$

$C_{69} = 24\omega_7\omega_4^2v_3^2 - 12\omega_7^2v_3^2 - 2\omega_7^2\omega_4^2cs^2 - 12\omega_7\omega_4 - 12\omega_7\omega_4cs^2 + 42\omega_4^3v_3^2 - 12\omega_7^2\omega_4v_3^2 + 12\omega_7\omega_4^3 + \omega_7^2\omega_4^3cs^2 - 24\omega_7\omega_4^3v_3^2 - 84\omega_4^2v_3^2 - 24\omega_7\omega_4^2 + 2\omega_7^2\omega_4^3v_3^2 + 36\omega_4^2 - 24\omega_7\omega_4^3cs^2 + 2\omega_7^2\omega_4^2 - 18\omega_4^3 - 60\omega_4^2cs^2 - \omega_7^2\omega_4^3 + 72\omega_7\omega_4^2cs^2 + 2\omega_7^2\omega_4^2v_3^2 + 24\omega_7^2cs^2 + 60\omega_7\omega_4v_3^2 + 6\omega_7^2\omega_4 - 30\omega_7^2\omega_4cs^2 + 30\omega_4^3cs^2$

2.5 CLBM2

2.5.1 Definitions

Collision operator $\boldsymbol{C}$:

$$\boldsymbol{C}(\boldsymbol{f}) = \mathbf{K}^{-1}\mathbf{S}\left(\boldsymbol{\kappa}^{(eq)} - \mathbf{K}\boldsymbol{f}\right),$$

where

$$\mathbf{S} = \mathrm{diag}(\omega_1, \omega_2, \omega_3, \omega_4, \omega_5, \omega_6, \omega_7),$$

$\omega_1, \omega_2, \ldots, \omega_7 \in (0, 2)$.
Matrix $\mathbf{K}$ corresponds to the transformation matrix to the central moment basis defined by

$$\boldsymbol{\kappa} = \begin{pmatrix} k_{(0,0,0)} \\ k_{(1,0,0)} \\ k_{(0,1,0)} \\ k_{(0,0,1)} \\ k_{(2,0,0)} + k_{(0,2,0)} + k_{(0,0,2)} \\ k_{(2,0,0)} - k_{(0,2,0)} \\ k_{(2,0,0)} - k_{(0,0,2)} \end{pmatrix},$$

Thus, the transformation matrix $\mathbf{K}$ satisfies

$$
\begin{aligned}
\mathbf{K}_{1,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(0,0,0)}, \\
\mathbf{K}_{2,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(1,0,0)}, \\
\mathbf{K}_{3,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(0,1,0)}, \\
\mathbf{K}_{4,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(0,0,1)}, \\
\mathbf{K}_{5,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(2,0,0)} + (\boldsymbol{c}_i - \boldsymbol{v})^{(0,2,0)} + (\boldsymbol{c}_i - \boldsymbol{v})^{(0,0,2)}, \\
\mathbf{K}_{6,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(2,0,0)} - (\boldsymbol{c}_i - \boldsymbol{v})^{(0,2,0)}, \\
\mathbf{K}_{7,i} &= (\boldsymbol{c}_i - \boldsymbol{v})^{(2,0,0)} - (\boldsymbol{c}_i - \boldsymbol{v})^{(0,0,2)},
\end{aligned}
$$

$\forall i \in \{1, 2, \cdots, 7\}$.
The equilibrium central moments are defined by

$$\boldsymbol{\kappa}^{(eq)} = \mathbf{K}\mathbf{M}^{-1}\boldsymbol{\mu}^{(eq)},$$

i.e.,

$$\boldsymbol{\kappa}^{(eq)} = \Big(\rho, 0, 0, 0, 3\rho c_s^2, 0, 0\Big)^T.$$

2.5.2 Conservation of mass equation

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$$
\begin{aligned}
&\frac{\partial \rho}{\partial t} + \frac{v_1\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_1} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_1}{\partial x_1} + \frac{v_2\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_2} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_2}{\partial x_2} + \frac{v_3\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_3} + \frac{\rho\delta_l}{\delta_t}\frac{\partial v_3}{\partial x_3} + (-2+\omega_2)\frac{\delta_l}{2\omega_2}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} + \\
&(-2+\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1} + (-2+\omega_2)\frac{\rho\delta_l^2}{2\omega_2\delta_t}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + (2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + (\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_1\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} + \\
&(\omega_2 - \omega_2\omega_3 + \omega_3)\frac{\rho\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2} + (2-\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3} + (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{v_1\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3} + \\
&(\omega_4 - \omega_4\omega_2 + \omega_2)\frac{\rho\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3} + (-2+\omega_3)\frac{\delta_l}{2\omega_3}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t} + (\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_2\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1} + (2-\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1} \\
&+ (-2+\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2} + (-2+\omega_3)\frac{\rho\delta_l^2}{2\omega_3\delta_t}\left(\frac{\partial v_2}{\partial x_2}\right)^2 + (2-\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3} + (-\omega_4\omega_3 + \omega_4 + \omega_3)\frac{v_2\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3} \\
&+ (-\omega_4\omega_3 + \omega_4 + \omega_3)\frac{\rho\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3} + (-2+\omega_4)\frac{\delta_l}{2\omega_4}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t} + (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{v_3\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1} + \\
&(2-\omega_2)\frac{v_1\delta_l^2}{2\omega_2\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1} + (-\omega_4\omega_3 + \omega_4 + \omega_3)\frac{v_3\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2} + (2-\omega_3)\frac{v_2\delta_l^2}{2\omega_3\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2} + (-2+\omega_4)\frac{v_3\delta_l^2}{2\omega_4\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3} + \\
&(-2+\omega_4)\frac{\rho\delta_l^2}{2\omega_4\delta_t}\left(\frac{\partial v_3}{\partial x_3}\right)^2 + (-2+\omega_2)\frac{\rho\delta_l}{2\omega_2}\frac{\partial^2 v_1}{\partial t\partial x_1} + (-2+\omega_2)\frac{cs^2\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 \rho}{\partial x_1^2} + (-2+\omega_2)\frac{v_1\rho\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_1}{\partial x_1^2} + (-2+\omega_3)\frac{\rho\delta_l}{2\omega_3}\frac{\partial^2 v_2}{\partial t\partial x_2} \\
&+ (\omega_2 - \omega_2\omega_3 + \omega_3)\frac{v_2v_1\delta_l^2}{\omega_2\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_1\partial x_2} + (2-\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_1}{\partial x_1\partial x_2} + (2-\omega_2)\frac{v_1\rho\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_2}{\partial x_1\partial x_2} + (-2+\omega_3)\frac{cs^2\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_2^2} + \\
&(-2+\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_2}{\partial x_2^2} + (-2+\omega_4)\frac{\rho\delta_l}{2\omega_4}\frac{\partial^2 v_3}{\partial t\partial x_3} + (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{v_3v_1\delta_l^2}{\omega_4\omega_2\delta_t}\frac{\partial^2 \rho}{\partial x_1\partial x_3} + (2-\omega_4)\frac{v_3\rho\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_1}{\partial x_1\partial x_3} + \\
&(2-\omega_2)\frac{v_1\rho\delta_l^2}{2\omega_2\delta_t}\frac{\partial^2 v_3}{\partial x_1\partial x_3} + (-\omega_4\omega_3 + \omega_4 + \omega_3)\frac{v_3v_2\delta_l^2}{\omega_4\omega_3\delta_t}\frac{\partial^2 \rho}{\partial x_2\partial x_3} + (2-\omega_4)\frac{v_3\rho\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_2}{\partial x_2\partial x_3} + (2-\omega_3)\frac{v_2\rho\delta_l^2}{2\omega_3\delta_t}\frac{\partial^2 v_3}{\partial x_2\partial x_3} + \\
&(-2+\omega_4)\frac{cs^2\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 \rho}{\partial x_3^2} + (-2+\omega_4)\frac{v_3\rho\delta_l^2}{2\omega_4\delta_t}\frac{\partial^2 v_3}{\partial x_3^2} + (12+\omega_2^2-12\omega_2)\frac{\rho\delta_l\delta_t}{12\omega_2^2}\frac{\partial^3 v_1}{\partial t^2\partial x_1} + (12+\omega_2^2-12\omega_2)\frac{v_1\rho\delta_l^2}{6\omega_2^2}\frac{\partial^3 v_1}{\partial t\partial x_1^2} + \\
&C_1\frac{v_1\delta_l^3}{6\omega_5\omega_2\delta_t}\frac{\partial^3 \rho}{\partial x_1^3} + C_2\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^3} + (12+\omega_3^2-12\omega_3)\frac{\rho\delta_l\delta_t}{12\omega_3^2}\frac{\partial^3 v_2}{\partial t^2\partial x_2} + \\
&(3\omega_3^2 - 6\omega_2 + 9\omega_2\omega_3 - 6\omega_3 - 2\omega_2\omega_3^2)\frac{v_2\rho\delta_l^2}{6\omega_2\omega_3^2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_2} + (3\omega_2^2 - 2\omega_2^2\omega_3 - 6\omega_2 + 9\omega_2\omega_3 - 6\omega_3)\frac{v_1\rho\delta_l^2}{6\omega_2^2\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_1\partial x_2} + \\
&C_3\frac{v_2\delta_l^3}{2\omega_5\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 \rho}{\partial x_1^2\partial x_2} + (6\omega_2^2 + \omega_2^2\omega_3^2 - 6\omega_2^2\omega_3 + 6\omega_3^2 - 6\omega_2\omega_3^2)\frac{v_2v_1\rho\delta_l^3}{6\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^2\partial x_2} + (-12cs^2\omega_5 - 12cs^2\omega_2 + 6cs^2\omega_2^2 + \\
&12v_1^2\omega_2 - 3cs^2\omega_5\omega_2^2 + 6v_1^2\omega_5\omega_2 - 12v_1^2\omega_5 + v_1^2\omega_5\omega_2^2 + 18cs^2\omega_5\omega_2 - 6v_1^2\omega_2^2)\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_2}{\partial x_1^2\partial x_2} +
\end{aligned}
$$

$$(12+\omega_3^2-12\omega_3)\frac{v_2\rho\delta_l^2}{6\omega_3^2}\frac{\partial^3 v_2}{\partial t\partial x_2^2}+C_4\frac{v_1\delta_l^3}{2\omega_2^2\omega_6\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_1\partial x_2^2}+$$
$$(6v_2^2\omega_6\omega_3+6cs^2\omega_3^2-12cs^2\omega_3-12v_2^2\omega_6+v_2^2\omega_6\omega_3^2+12v_2^2\omega_3-3cs^2\omega_6\omega_3^2-12cs^2\omega_6+18cs^2\omega_6\omega_3-6v_2^2\omega_3^2)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2^2}$$
$$+(6\omega_2^2+\omega_2^2\omega_3^2-6\omega_2^2\omega_3+6\omega_3^2-6\omega_2\omega_3^2)\frac{v_2v_1\rho\delta_l^3}{6\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_1\partial x_2^2}+C_5\frac{v_2\delta_l^3}{6\omega_6\omega_3\delta_t}\frac{\partial^3\rho}{\partial x_2^3}+C_6\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^3}+$$
$$(12-12\omega_4+\omega_4^2)\frac{\rho\delta_l\delta_t}{12\omega_4^2}\frac{\partial^3 v_3}{\partial t^2\partial x_3}+(-6\omega_4+9\omega_4\omega_2-6\omega_2-2\omega_4^2\omega_2+3\omega_4^2)\frac{v_3\rho\delta_l^2}{6\omega_4^2\omega_2}\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_3}+$$
$$(3\omega_2^2-2\omega_4\omega_2^2-6\omega_4+9\omega_4\omega_2-6\omega_2)\frac{v_1\rho\delta_l^2}{6\omega_4\omega_2^2}\frac{\partial^3 v_3}{\partial t\partial x_1\partial x_3}+C_7\frac{v_3\delta_l^3}{2\omega_4^2\omega_5\omega_2^2\delta_t}\frac{\partial^3\rho}{\partial x_1^2\partial x_3}+$$
$$(6\omega_2^2-6\omega_4\omega_2^2-6\omega_4^2\omega_2+6\omega_4^2+\omega_4^2\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_1}{\partial x_1^2\partial x_3}+(-12cs^2\omega_5-12cs^2\omega_2+6cs^2\omega_2^2+12v_1^2\omega_2-3cs^2\omega_5\omega_2^2+$$
$$6v_1^2\omega_5\omega_2-12v_1^2\omega_5+v_1^2\omega_5\omega_2^2+18cs^2\omega_5\omega_2-6v_1^2\omega_2^2)\frac{\rho\delta_l^3}{12\omega_5\omega_2^2\delta_t}\frac{\partial^3 v_3}{\partial x_1^2\partial x_3}+$$
$$(9\omega_4\omega_3-6\omega_4-6\omega_3+3\omega_4^2-2\omega_4^2\omega_3)\frac{v_3\rho\delta_l^2}{6\omega_4^2\omega_3}\frac{\partial^3 v_2}{\partial t\partial x_2\partial x_3}+(9\omega_4\omega_3-6\omega_4+3\omega_3^2-2\omega_4\omega_3^2-6\omega_3)\frac{v_2\rho\delta_l^2}{6\omega_4\omega_3^2}\frac{\partial^3 v_3}{\partial t\partial x_2\partial x_3}+$$
$$(\omega_4\omega_2\omega_3^2+\omega_2^2\omega_3^2+\omega_4^2\omega_2^2\omega_3^2-2\omega_4^2\omega_2^2\omega_3+\omega_4^2\omega_3^2+\omega_4\omega_2^2\omega_3+\omega_4^2\omega_2\omega_3-2\omega_4^2\omega_2\omega_3^2-2\omega_4\omega_2^2\omega_3^2+\omega_4^2\omega_2^2)\frac{2v_3v_2v_1\delta_l^3}{\omega_4^2\omega_2^2\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_1\partial x_2\partial x_3}$$
$$+(6\omega_4\omega_3+3\omega_3^2-6\omega_4\omega_3^2+2\omega_4^2\omega_3^2+3\omega_4^2-6\omega_4^2\omega_3)\frac{v_3v_2\rho\delta_l^3}{3\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_2\partial x_3}+$$
$$(3\omega_2^2-6\omega_4\omega_2^2+6\omega_4\omega_2-6\omega_4^2\omega_2+3\omega_4^2+2\omega_4^2\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{3\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_2}{\partial x_1\partial x_2\partial x_3}+$$
$$(3\omega_2^2+2\omega_2^2\omega_3^2-6\omega_2^2\omega_3+3\omega_3^2+6\omega_2\omega_3-6\omega_2\omega_3^2)\frac{v_2v_1\rho\delta_l^3}{3\omega_2^2\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_2\partial x_3}+C_8\frac{v_3\delta_l^3}{2\omega_4^2\omega_6\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_2^2\partial x_3}+$$
$$(6\omega_3^2-6\omega_4\omega_3^2+\omega_4^2\omega_3^2+6\omega_4^2-6\omega_4^2\omega_3)\frac{v_3v_2\rho\delta_l^3}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_2}{\partial x_2^2\partial x_3}+$$
$$(6v_2^2\omega_6\omega_3+6cs^2\omega_3^2-12cs^2\omega_3-12v_2^2\omega_6+v_2^2\omega_6\omega_3^2+12v_2^2\omega_3-3cs^2\omega_6\omega_3^2-12cs^2\omega_6+18cs^2\omega_6\omega_3-6v_2^2\omega_3^2)\frac{\rho\delta_l^3}{12\omega_6\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2^2\partial x_3}$$
$$+(12-12\omega_4+\omega_4^2)\frac{v_3\rho\delta_l^2}{6\omega_4^2}\frac{\partial^3 v_3}{\partial t\partial x_3^2}+C_9\frac{v_1\delta_l^3}{2\omega_7\omega_4^2\omega_2^2\delta_t}\frac{\partial^3\rho}{\partial x_1\partial x_3^2}+$$
$$(6\omega_4^2cs^2+\omega_7\omega_4^2v_3^2-3\omega_7\omega_4^2cs^2-6\omega_4^2v_3^2+6\omega_7\omega_4v_3^2-12\omega_4cs^2+12\omega_4v_3^2+18\omega_7\omega_4cs^2-12\omega_7v_3^2-12\omega_7cs^2)\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_1}{\partial x_1\partial x_3^2}$$
$$+(6\omega_2^2-6\omega_4\omega_2^2-6\omega_4^2\omega_2+6\omega_4^2+\omega_4^2\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\omega_4^2\omega_2^2\delta_t}\frac{\partial^3 v_3}{\partial x_1\partial x_3^2}+C_{10}\frac{v_2\delta_l^3}{2\omega_7\omega_4^2\omega_3^2\delta_t}\frac{\partial^3\rho}{\partial x_2\partial x_3^2}+$$
$$(6\omega_4^2cs^2+\omega_7\omega_4^2v_3^2-3\omega_7\omega_4^2cs^2-6\omega_4^2v_3^2+6\omega_7\omega_4v_3^2-12\omega_4cs^2+12\omega_4v_3^2+18\omega_7\omega_4cs^2-12\omega_7v_3^2-12\omega_7cs^2)\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_2}{\partial x_2\partial x_3^2}$$
$$+(6\omega_3^2-6\omega_4\omega_3^2+\omega_4^2\omega_3^2+6\omega_4^2-6\omega_4^2\omega_3)\frac{v_3v_2\rho\delta_l^3}{6\omega_4^2\omega_3^2\delta_t}\frac{\partial^3 v_3}{\partial x_2\partial x_3^2}+C_{11}\frac{v_3\delta_l^3}{6\omega_7\omega_4\delta_t}\frac{\partial^3\rho}{\partial x_3^3}+C_{12}\frac{\rho\delta_l^3}{12\omega_7\omega_4^2\delta_t}\frac{\partial^3 v_3}{\partial x_3^3}+$$
$$(-2-\omega_2^2+3\omega_2)\frac{\rho\delta_l\delta_t^2}{2\omega_2^3}\frac{\partial^4 v_1}{\partial t^3\partial x_1}+(-2-\omega_2^2+3\omega_2)\frac{3v_1\rho\delta_l^2\delta_t}{2\omega_2^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1^2}+C_{13}\frac{\rho\delta_l^3}{12\omega_5^2\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^3}+C_{14}\frac{\delta_l^4}{24\omega_5^2\omega_3^2\delta_t}\frac{\partial^4\rho}{\partial x_1^4}+$$
$$C_{15}\frac{v_1\rho\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^4}+(-2-\omega_3^2+3\omega_3)\frac{\rho\delta_l\delta_t^2}{2\omega_3^3}\frac{\partial^4 v_2}{\partial t^3\partial x_2}+$$
$$(12\omega_2^2+13\omega_2^2\omega_3^2-\omega_2^2\omega_3^3-6\omega_3^3-24\omega_2^2\omega_3+12\omega_3^2+12\omega_2\omega_3+7\omega_2\omega_3^3-24\omega_2\omega_3^2)\frac{v_2\rho\delta_l^2\delta_t}{12\omega_2^2\omega_3^3}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_2}+$$
$$(12\omega_2^2+13\omega_2^2\omega_3^2-6\omega_2^3+7\omega_2^3\omega_3-\omega_2^3\omega_3^2-24\omega_2^2\omega_3+12\omega_3^2+12\omega_2\omega_3-24\omega_2\omega_3^2)\frac{v_1\rho\delta_l^2\delta_t}{12\omega_2^3\omega_3^2}\frac{\partial^4 v_2}{\partial t^2\partial x_1\partial x_2}+$$
$$(6\omega_2^2\omega_3^2-6\omega_2^3+12\omega_2^3\omega_3-7\omega_2^2\omega_3^3-7\omega_2^3\omega_3^2-12\omega_3^3-6\omega_2^2\omega_3+\omega_2^3\omega_3^3+18\omega_2\omega_3^3)\frac{v_2v_1\rho\delta_l^3}{6\omega_2^3\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_2}+$$
$$C_{16}\frac{\rho\delta_l^3}{12\omega_5^2\omega_2^3\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_1^2\partial x_2}+C_{17}\frac{v_2v_1\delta_l^4}{6\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^3\partial x_2}+C_{18}\frac{v_2\rho\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^3\partial x_2}+C_{19}\frac{v_1\rho\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^3\partial x_2}+$$
$$(-2-\omega_3^2+3\omega_3)\frac{3v_2\rho\delta_l^2\delta_t}{2\omega_3^3}\frac{\partial^4 v_2}{\partial t^2\partial x_2^2}+C_{20}\frac{\rho\delta_l^3}{12\omega_2\omega_6^2\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2^2}+$$
$$(6\omega_2^2\omega_3^2-12\omega_2^3+18\omega_2^3\omega_3-7\omega_2^2\omega_3^3-7\omega_2^3\omega_3^2-6\omega_3^3+\omega_2^3\omega_3^3+12\omega_2\omega_3^3-6\omega_2\omega_3^2)\frac{v_2v_1\rho\delta_l^3}{6\omega_2^3\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2^2}+$$
$$C_{21}\frac{\delta_l^4}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2}+C_{22}\frac{v_1\rho\delta_l^4}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2^2}+C_{23}\frac{v_2\rho\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2^2}+C_{24}\frac{\rho\delta_l^3}{12\omega_6^2\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_2^3}+$$
$$C_{25}\frac{v_2v_1\delta_l^4}{6\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_1\partial x_2^3}+C_{26}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2^3}+C_{27}\frac{v_1\rho\delta_l^4}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2^3}+C_{28}\frac{\delta_l^4}{24\omega_6^2\omega_3^3\delta_t}\frac{\partial^4\rho}{\partial x_2^4}+C_{29}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^4}+$$
$$(-2+3\omega_4-\omega_4^2)\frac{\rho\delta_l\delta_t^2}{2\omega_4^3}\frac{\partial^4 v_3}{\partial t^3\partial x_3}+$$
$$(12\omega_2^2-24\omega_4\omega_2^2+12\omega_4\omega_2-24\omega_4^2\omega_2-\omega_4^3\omega_2^2+12\omega_4^2+7\omega_4^3\omega_2-6\omega_4^3+13\omega_4^2\omega_2^2)\frac{v_3\rho\delta_l^2\delta_t}{12\omega_4^3\omega_2^2}\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_3}+$$
$$(12\omega_2^2-24\omega_4\omega_2^2-6\omega_2^3+7\omega_4\omega_2^3+12\omega_4\omega_2-24\omega_4^2\omega_2+12\omega_4^2-\omega_4^2\omega_2^3+13\omega_4^2\omega_2^2)\frac{v_1\rho\delta_l^2\delta_t}{12\omega_4^2\omega_2^3}\frac{\partial^4 v_3}{\partial t^2\partial x_1\partial x_3}+$$

$$(-6\omega_4\omega_2^2 - 6\omega_2^3 + 12\omega_4\omega_2^3 + \omega_4^3\omega_2^3 - 7\omega_4^3\omega_2^2 - 7\omega_4^2\omega_2^3 + 18\omega_4^3\omega_2 - 12\omega_4^3 + 6\omega_4^2\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\omega_4^3\omega_2^3}\frac{\partial^4 v_1}{\partial t\partial x_1^2\partial x_3} +$$
$$C_{30}\frac{\rho\delta_l^3}{12\omega_4\omega_5^2\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1^2\partial x_3} + C_{31}\frac{v_3v_1\delta_l^4}{6\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 \rho}{\partial x_1^3\partial x_3} + C_{32}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^3\partial x_3} + C_{33}\frac{v_1\rho\delta_l^4}{12\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^3\partial x_3} +$$
$$(12\omega_4\omega_3 + 12\omega_3^2 - 24\omega_4\omega_3^2 + 13\omega_4^2\omega_3^2 + 7\omega_4^3\omega_3 + 12\omega_4^2 - \omega_4^3\omega_3^2 - 24\omega_4^2\omega_3 - 6\omega_4^3)\frac{v_3\rho\delta_l^2\delta_t}{12\omega_4^3\omega_3^2}\frac{\partial^4 v_2}{\partial t^2\partial x_2\partial x_3} +$$
$$(12\omega_4\omega_3 - 6\omega_3^3 + 7\omega_4\omega_3^3 + 12\omega_3^2 - 24\omega_4\omega_3^2 + 13\omega_4^2\omega_3^2 - \omega_4^2\omega_3^3 + 12\omega_4^2 - 24\omega_4^2\omega_3)\frac{v_2\rho\delta_l^2\delta_t}{12\omega_4^2\omega_3^3}\frac{\partial^4 v_3}{\partial t^2\partial x_2\partial x_3} +$$
$$C_{34}\frac{v_3v_2\rho\delta_l^3}{6\omega_4^3\omega_2\omega_3^3}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2\partial x_3} + C_{35}\frac{v_3v_1\rho\delta_l^3}{6\omega_4^3\omega_2^3\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2\partial x_3} + C_{36}\frac{v_2v_1\rho\delta_l^3}{6\omega_4\omega_2^3\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_2\partial x_3} + C_{37}\frac{v_3v_2\delta_l^4}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_1^2\partial x_2\partial x_3} +$$
$$C_{38}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_2\partial x_3} + C_{39}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1^2\partial x_2\partial x_3} + C_{40}\frac{v_2\rho\delta_l^4}{12\omega_5^2\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^2\partial x_2\partial x_3} +$$
$$(-6\omega_3^3 + 12\omega_4\omega_3^3 - 6\omega_4\omega_3^2 + 6\omega_4^2\omega_3^2 + 18\omega_4^3\omega_3 - 7\omega_4^2\omega_3^3 - 7\omega_4^3\omega_3^2 - 12\omega_4^3 + \omega_4^3\omega_3^3)\frac{v_3v_2\rho\delta_l^3}{6\omega_4^3\omega_3^3}\frac{\partial^4 v_2}{\partial t\partial x_2^2\partial x_3} +$$
$$C_{41}\frac{\rho\delta_l^3}{12\omega_4\omega_6^2\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_2^2\partial x_3} + C_{42}\frac{v_3v_1\delta_l^4}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_1\partial x_2^2\partial x_3} + C_{43}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2^2\partial x_3} + C_{44}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2^2\partial x_3} +$$
$$C_{45}\frac{v_1\rho\delta_l^4}{12\omega_2^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_2^2\partial x_3} + C_{46}\frac{v_3v_2\delta_l^4}{6\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_2^3\partial x_3} + C_{47}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^3\partial x_3} + C_{48}\frac{v_2\rho\delta_l^4}{12\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2^3\partial x_3} +$$
$$(-2 + 3\omega_4 - \omega_4^2)\frac{3v_3\rho\delta_l^2\delta_t}{2\omega_4^3}\frac{\partial^4 v_3}{\partial t^2\partial x_3^2} + C_{49}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3\omega_2}\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_3^2} +$$
$$(-12\omega_2^3 + 18\omega_4\omega_2^3 + \omega_4^3\omega_2^3 - 6\omega_4^2\omega_2 - 7\omega_4^3\omega_2^2 - 7\omega_4^2\omega_2^3 + 12\omega_4^3\omega_2 - 6\omega_4^3 + 6\omega_4^2\omega_2^2)\frac{v_3v_1\rho\delta_l^3}{6\omega_4^3\omega_2^3}\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_3^2} +$$
$$C_{50}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 \rho}{\partial x_1^2\partial x_3^2} + C_{51}\frac{v_1\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_1}{\partial x_1^2\partial x_3^2} + C_{52}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_5^2\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1^2\partial x_3^2} + C_{53}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3\omega_3}\frac{\partial^4 v_2}{\partial t\partial x_2\partial x_3^2} +$$
$$(-12\omega_3^3 + 18\omega_4\omega_3^3 + 6\omega_4^2\omega_3^2 + 12\omega_4^3\omega_3 - 7\omega_4^2\omega_3^3 - 7\omega_4^3\omega_3^2 - 6\omega_4^2\omega_3 - 6\omega_4^3 + \omega_4^3\omega_3^3)\frac{v_3v_2\rho\delta_l^3}{6\omega_4^3\omega_3^3}\frac{\partial^4 v_3}{\partial t\partial x_2\partial x_3^2} +$$
$$C_{54}\frac{v_2v_1\delta_l^4}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_1\partial x_2\partial x_3^2} + C_{55}\frac{v_2\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_2\partial x_3^2} + C_{56}\frac{v_1\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_2}{\partial x_1\partial x_2\partial x_3^2} + C_{57}\frac{v_3v_2v_1\rho\delta_l^4}{6\omega_4^3\omega_2^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_2\partial x_3^2} +$$
$$C_{58}\frac{\delta_l^4}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_2^2\partial x_3^2} + C_{59}\frac{v_2\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_2}{\partial x_2^2\partial x_3^2} + C_{60}\frac{v_3\rho\delta_l^4}{12\omega_4^3\omega_6^2\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2^2\partial x_3^2} + C_{61}\frac{\rho\delta_l^3}{12\omega_7^2\omega_4^3}\frac{\partial^4 v_3}{\partial t\partial x_3^3} +$$
$$C_{62}\frac{v_3v_1\delta_l^4}{6\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 \rho}{\partial x_1\partial x_3^3} + C_{63}\frac{v_3\rho\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_1}{\partial x_1\partial x_3^3} + C_{64}\frac{v_1\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_2^3\delta_t}\frac{\partial^4 v_3}{\partial x_1\partial x_3^3} + C_{65}\frac{v_3v_2\delta_l^4}{6\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 \rho}{\partial x_2\partial x_3^3} +$$
$$C_{66}\frac{v_3\rho\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_2}{\partial x_2\partial x_3^3} + C_{67}\frac{v_2\rho\delta_l^4}{12\omega_7^2\omega_4^3\omega_3^3\delta_t}\frac{\partial^4 v_3}{\partial x_2\partial x_3^3} + C_{68}\frac{\delta_l^4}{24\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 \rho}{\partial x_3^4} + C_{69}\frac{v_3\rho\delta_l^4}{12\omega_7^2\omega_4^3\delta_t}\frac{\partial^4 v_3}{\partial x_3^4} = 0,$$

where:

$$C_1 = 6 + 9cs^2\omega_5 + 9cs^2\omega_2 - 6v_1^2 - 3\omega_5 - 3\omega_2 + 3v_1^2\omega_2 - 18cs^2 + \omega_5\omega_2 - v_1^2\omega_5\omega_2 + 3v_1^2\omega_5 - 3cs^2\omega_5\omega_2$$

$$C_2 = -6\omega_2^2 - 12cs^2\omega_5 - 12cs^2\omega_2 + 6cs^2\omega_2^2 + 12\omega_2 - 36v_1^2\omega_2 - 3cs^2\omega_5\omega_2^2 - 6\omega_5\omega_2 + 6v_1^2\omega_5\omega_2 + 12v_1^2\omega_5 - 5v_1^2\omega_5\omega_2^2 + 18cs^2\omega_5\omega_2 + 2\omega_5\omega_2^2 + 18v_1^2\omega_2^2$$

$$C_3 = -3v_1^2\omega_5\omega_2^2\omega_3 + 4cs^2\omega_5\omega_2\omega_3^2 - v_1^2\omega_2^2\omega_3^2 + cs^2\omega_2^2\omega_3^2 - 2cs^2\omega_5\omega_2\omega_3 + v_1^2\omega_5\omega_2^2\omega_3^2 - 2v_1^2\omega_5\omega_2\omega_3^2 - 2cs^2\omega_2\omega_3^2 + cs^2\omega_5\omega_2^2\omega_3 + 2v_1^2\omega_2\omega_3^2 + 2v_1^2\omega_5\omega_2^2 - cs^2\omega_5\omega_2^2\omega_3^2 + 2v_1^2\omega_5\omega_2\omega_3 - 2cs^2\omega_5\omega_3^2$$

$$C_4 = -cs^2\omega_2^2\omega_6\omega_3^2 - 2cs^2\omega_2^2\omega_3 + 2v_2^2\omega_2\omega_6\omega_3 - 3v_2^2\omega_2\omega_6\omega_3^2 + cs^2\omega_2^2\omega_3^2 + 4cs^2\omega_2^2\omega_6\omega_3 + 2v_2^2\omega_6\omega_3^2 + v_2^2\omega_2^2\omega_6\omega_3^2 - v_2^2\omega_2^2\omega_3^2 - 2cs^2\omega_2\omega_6\omega_3 + cs^2\omega_2\omega_6\omega_3^2 + 2v_2^2\omega_2^2\omega_3 - 2cs^2\omega_2^2\omega_6 - 2v_2^2\omega_2^2\omega_6\omega_3$$

$$C_5 = 6 - v_2^2\omega_6\omega_3 + 9cs^2\omega_3 + 3v_2^2\omega_6 - 6v_2^2 - 18cs^2 + 3v_2^2\omega_3 - 3\omega_6 + 9cs^2\omega_6 + \omega_6\omega_3 - 3\omega_3 - 3cs^2\omega_6\omega_3$$

$$C_6 = 6v_2^2\omega_6\omega_3 + 6cs^2\omega_3^2 - 12cs^2\omega_3 + 12v_2^2\omega_6 - 6\omega_3^2 - 5v_2^2\omega_6\omega_3^2 - 36v_2^2\omega_3 - 3cs^2\omega_6\omega_3^2 - 12cs^2\omega_6 - 6\omega_6\omega_3 + 12\omega_3 + 18cs^2\omega_6\omega_3 + 2\omega_6\omega_3^2 + 18v_2^2\omega_3^2$$

$$C_7 = -2\omega_4cs^2\omega_5\omega_2 - 2\omega_4^2cs^2\omega_2 - 2\omega_4^2cs^2\omega_5 - 3\omega_4v_1^2\omega_5\omega_2^2 + 2\omega_4v_1^2\omega_5\omega_2 + \omega_4^2cs^2\omega_2^2 + \omega_4cs^2\omega_5\omega_2^2 + 4\omega_4^2cs^2\omega_5\omega_2 + \omega_4^2v_1^2\omega_5\omega_2^2 + 2\omega_4^2v_1^2\omega_2 - \omega_4^2v_1^2\omega_2^2 + 2v_1^2\omega_5\omega_2^2 - 2\omega_4^2v_1^2\omega_5\omega_2 - \omega_4^2cs^2\omega_5\omega_2^2$$

$$C_8 = \omega_4^2v_2^2\omega_6\omega_3^2 + \omega_4^2cs^2\omega_3^2 - 2\omega_4cs^2\omega_6\omega_3 + \omega_4cs^2\omega_6\omega_3^2 - 2\omega_4^2v_2^2\omega_6\omega_3 - 2\omega_4^2cs^2\omega_3 + 2v_2^2\omega_6\omega_3^2 - 2\omega_4^2cs^2\omega_6 + 2\omega_4^2v_2^2\omega_3 - 3\omega_4v_2^2\omega_6\omega_3^2 + 4\omega_4^2cs^2\omega_6\omega_3 - \omega_4^2cs^2\omega_6\omega_3^2 + 2\omega_4v_2^2\omega_6\omega_3 - \omega_4^2v_2^2\omega_3^2$$

$$C_9 = -3\omega_7\omega_4^2v_3^2\omega_2 + \omega_7\omega_4^2cs^2\omega_2 - 2\omega_7cs^2\omega_2^2 - \omega_4^2v_3^2\omega_2^2 - \omega_7\omega_4^2cs^2\omega_2^2 + \omega_7\omega_4^2v_3^2\omega_2^2 + 2\omega_7\omega_4^2v_3^2 + \omega_4^2cs^2\omega_2^2 + 4\omega_7\omega_4cs^2\omega_2^2 + 2\omega_4v_3^2\omega_2^2 - 2\omega_4cs^2\omega_2^2 - 2\omega_7\omega_4v_3^2\omega_2^2 + 2\omega_7\omega_4v_3^2\omega_2 - 2\omega_7\omega_4cs^2\omega_2$$

$$C_{10} = \omega_7\omega_4^2v_3^2\omega_3^2 + \omega_4^2cs^2\omega_3^2 - 2\omega_7cs^2\omega_3^2 - \omega_4^2v_3^2\omega_3^2 - \omega_7\omega_4^2cs^2\omega_3^2 + \omega_7\omega_4^2cs^2\omega_3 + 2\omega_7\omega_4^2v_3^2 - 3\omega_7\omega_4^2v_3^2\omega_3 - 2\omega_7\omega_4cs^2\omega_3 + 2\omega_7\omega_4v_3^2\omega_3 - 2\omega_4cs^2\omega_3^2 - 2\omega_7\omega_4v_3^2\omega_3^2 + 4\omega_7\omega_4cs^2\omega_3^2 + 2\omega_4v_3^2\omega_3^2$$

$$C_{11} = 6 - 3\omega_7 - 3\omega_4 - \omega_7\omega_4v_3^2 + 9\omega_4cs^2 - 6v_3^2 + 3\omega_4v_3^2 - 18cs^2 - 3\omega_7\omega_4cs^2 + \omega_7\omega_4 + 3\omega_7v_3^2 + 9\omega_7cs^2$$

$$C_{12} = 12\omega_4 + 6\omega_4^2cs^2 - 5\omega_7\omega_4^2v_3^2 - 3\omega_7\omega_4^2cs^2 + 18\omega_4^2v_3^2 + 6\omega_7\omega_4v_3^2 - 12\omega_4cs^2 - 36\omega_4v_3^2 + 18\omega_7\omega_4cs^2 + 2\omega_7\omega_4^2 - 6\omega_4^2 - 6\omega_7\omega_4 + 12\omega_7v_3^2 - 12\omega_7cs^2$$

$$C_{13} = -11\omega_5^2\omega_2^2 - 12\omega_2^2 - 48cs^2\omega_5^2\omega_2 - 3v_1^2\omega_5^2\omega_2^3 + 6\omega_2^3 + \omega_5^2\omega_2^3 + 15v_1^2\omega_5^2\omega_2^2 + 18v_1^2\omega_5^2\omega_2 + 12cs^2\omega_2^2 - 2cs^2\omega_5^2\omega_2^3 + 24cs^2\omega_5^2 + 12\omega_5^2\omega_2 + 25cs^2\omega_5^2\omega_2^2 - 6cs^2\omega_2^3 - 36cs^2\omega_5\omega_2^2 - 24\omega_5\omega_2 + 72v_1^2\omega_5\omega_2 + 9cs^2\omega_5\omega_2^3 - 9\omega_5\omega_2^3 - 36v_1^2\omega_5^2 - 108v_1^2\omega_5\omega_2^2 - 18v_1^2\omega_2^3 + 24cs^2\omega_5\omega_2 + 36\omega_5\omega_2^2 + 36v_1^2\omega_2^2 + 27v_1^2\omega_5\omega_2^3$$

$$C_{14} = 12cs^2\omega_5^2\omega_2 - 3cs^4\omega_5^2\omega_2^3 - 72cs^2v_1^2\omega_5\omega_2^3 - 3v_1^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^2 + 24cs^4\omega_5^2\omega_2^2 + 144cs^2v_1^2\omega_5\omega_2^2 + 72cs^2v_1^2\omega_5\omega_2 - 48cs^4\omega_5^2\omega_2 + cs^2\omega_5^2\omega_2^3 - 72v_1^4\omega_2^2 + 3v_1^4\omega_5^2\omega_2^3 - 12v_1^4\omega_5^2\omega_2^2 + 36v_1^4\omega_2^3 - 8cs^2\omega_5^2\omega_2^2 - 216cs^2v_1^2\omega_2^2 + 72v_1^4\omega_5\omega_2^2 + 24cs^2\omega_5\omega_2^2 + 24cs^4\omega_5\omega_2 + 108cs^2v_1^2\omega_2^3 - 36cs^2v_1^2\omega_5^2\omega_2 - 6cs^2\omega_5\omega_2^3 - 30v_1^4\omega_5\omega_2^3 + 24cs^4\omega_5^2 - 72v_1^2\omega_5\omega_2^2 - 36v_1^2\omega_2^3 - 12cs^2v_1^2\omega_5^2\omega_2^2 - 24cs^4\omega_5\omega_2^2 - 24cs^2\omega_5\omega_2 + 6cs^2v_1^2\omega_5^2\omega_2^3 + 6cs^4\omega_5\omega_2^3 + 72v_1^2\omega_2^2 + 30v_1^2\omega_5\omega_2^3$$

$$C_{15} = 2\omega_5^2\omega_2^2 + 36\omega_2^2 - 30cs^2\omega_5^2\omega_2 + 2v_1^2\omega_5^2\omega_2^3 - 18\omega_2^3 - \omega_5^2\omega_2^3 + 2v_1^2\omega_5^2\omega_2^2 - 12v_1^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 + cs^2\omega_5^2\omega_2^3 + 24cs^2\omega_5^2 + 6\omega_5^2\omega_2 - 2cs^2\omega_5^2\omega_2^2 + 30cs^2\omega_2^3 + 72cs^2\omega_5\omega_2^2 - 12\omega_5\omega_2 + 60v_1^2\omega_5\omega_2 - 24cs^2\omega_5\omega_2^3 + 12\omega_5\omega_2^3 - 12v_1^2\omega_5^2 + 24v_1^2\omega_5\omega_2^2 + 42v_1^2\omega_2^3 - 12cs^2\omega_5\omega_2 - 24\omega_5\omega_2^2 - 84v_1^2\omega_2^2 - 24v_1^2\omega_5\omega_2^3$$

$$C_{16} = 6v_1^2\omega_2^3\omega_3 + 12cs^2\omega_5^2\omega_2 - v_1^2\omega_5^2\omega_2^3 + 30v_1^2\omega_5\omega_2^2\omega_3 - 2cs^2\omega_5^2\omega_2^3\omega_3 + 12cs^2\omega_2^2\omega_3 + 24v_1^2\omega_5^2\omega_3 - 36v_1^2\omega_5^2\omega_2\omega_3 - 6v_1^2\omega_5^2\omega_2^2 - 6cs^2\omega_2^3\omega_3 + 12v_1^2\omega_5^2\omega_2 + 22cs^2\omega_5^2\omega_2^2\omega_3 - 9v_1^2\omega_5\omega_2^3\omega_3 + 3cs^2\omega_5^2\omega_2^3 - 12v_1^2\omega_2^2\omega_3 + 12cs^2\omega_5^2\omega_3 + 12cs^2\omega_5\omega_2\omega_3 - 18cs^2\omega_5^2\omega_2^2 - 30cs^2\omega_5\omega_2^2\omega_3 + v_1^2\omega_5^2\omega_2^3\omega_3 + 12cs^2\omega_5\omega_2^2 - 30cs^2\omega_5^2\omega_2\omega_3 - 6cs^2\omega_5\omega_2^3 + 8v_1^2\omega_5^2\omega_2^2\omega_3 - 12v_1^2\omega_5\omega_2^2 + 9cs^2\omega_5\omega_2^3\omega_3 - 12v_1^2\omega_5\omega_2\omega_3 + 6v_1^2\omega_5\omega_2^3$$

$$C_{17} = 12v_1^2\omega_2^2\omega_3^3 + 6\omega_5\omega_2^2\omega_3^2 - 6\omega_5^2\omega_2\omega_3^3 - 36cs^2\omega_5^2\omega_2^2\omega_3^3 + 6v_1^2\omega_5^2\omega_3^3 + 18cs^2\omega_2^3\omega_3^3 + 6cs^2\omega_5^2\omega_3^3\omega_3 - 24cs^2\omega_5\omega_2\omega_3^3 + 6\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5^2\omega_3^3 - 21\omega_5\omega_2^2\omega_3^3 - 36cs^2\omega_2^2\omega_3^3 + 12v_1^2\omega_5\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 3\omega_5\omega_2^3\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 + 6\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 - 3\omega_2^3\omega_3^3 + \omega_5^2\omega_2^3\omega_3^2 - 12v_1^2\omega_5^2\omega_2^3\omega_3 - 6v_1^2\omega_5^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2^3\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 - 6v_1^2\omega_5^2\omega_2^3\omega_3^2 - 24v_1^2\omega_5\omega_2\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 + 6v_1^2\omega_5^2\omega_2^2\omega_3 - 12cs^2\omega_5^2\omega_2\omega_3^2 + 72cs^2\omega_5\omega_2^2\omega_3^3 + 12\omega_5\omega_2\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^2 + 7\omega_5^2\omega_2^2\omega_3^3 + 6v_1^2\omega_5^2\omega_2^3\omega_3^2 - 24cs^2\omega_5\omega_2^2\omega_3^2 + 36cs^2\omega_5^2\omega_2\omega_3^3$$

$$C_{18} = 12v_1^2\omega_2^2\omega_3^3 + 12\omega_5\omega_2^2\omega_3^2 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^3 + 6cs^2\omega_2^3\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_5\omega_2\omega_3^3 + 12v_1^2\omega_5\omega_2^3\omega_3^2 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5^2\omega_3^3 - 6\omega_5\omega_2^2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3 - 12v_1^2\omega_5\omega_2^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 6\omega_5\omega_2^3\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 + 3\omega_5\omega_2^3\omega_3^3 + 30v_1^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 - 24v_1^2\omega_5\omega_2^2\omega_3^3 + 2\omega_5^2\omega_2^3\omega_3^2 - 18v_1^2\omega_5^2\omega_2^3\omega_3 - 12v_1^2\omega_5^2\omega_2^2\omega_3^3 - 12cs^2\omega_5\omega_2^3\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 12v_1^2\omega_5^2\omega_2^3\omega_3^2 + 12v_1^2\omega_5\omega_2\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^3 + 36cs^2\omega_5\omega_2^2\omega_3^3 + 3v_1^2\omega_5^2\omega_2^3\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2\omega_3^3$$

$$C_{19} = 11\omega_5^2\omega_2^2 + 12\omega_2^2 + 18cs^2\omega_5^2\omega_2 + v_1^2\omega_5^2\omega_2^3 - 6\omega_2^3 - \omega_5^2\omega_2^3 - 14v_1^2\omega_5^2\omega_2^2 + 12v_1^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 + 4cs^2\omega_5^2\omega_2^3 - 12\omega_5^2\omega_2 - 26cs^2\omega_5^2\omega_2^2 + 30cs^2\omega_2^3 + 96cs^2\omega_5\omega_2^2 + 24\omega_5\omega_2 - 60v_1^2\omega_5\omega_2 - 30cs^2\omega_5\omega_2^3 + 9\omega_5\omega_2^3 + 12v_1^2\omega_5^2 + 48v_1^2\omega_5\omega_2^2 - 6v_1^2\omega_2^3 - 36cs^2\omega_5\omega_2 - 36\omega_5\omega_2^2 + 12v_1^2\omega_2^2 - 6v_1^2\omega_5\omega_2^3$$

$$C_{20} = -2cs^2\omega_2\omega_6^2\omega_3^3 + 22cs^2\omega_2\omega_6^2\omega_3^2 + 12cs^2\omega_6^2\omega_3 - 12v_2^2\omega_2\omega_6\omega_3 + 30v_2^2\omega_2\omega_6\omega_3^2 - 12v_2^2\omega_2\omega_3^2 + 6v_2^2\omega_6\omega_3^2 - 30cs^2\omega_2\omega_6^2\omega_3 - 18cs^2\omega_6^2\omega_3^2 + 6v_2^2\omega_2\omega_3^3 - 9v_2^2\omega_2\omega_6\omega_3^2 + 3cs^2\omega_6^2\omega_3^3 + 12cs^2\omega_2\omega_6^2 - 12v_2^2\omega_6\omega_3^2 + v_2^2\omega_2\omega_6^2\omega_3^2 + 12cs^2\omega_2\omega_3^2 - 6cs^2\omega_6\omega_3^2 - 6v_2^2\omega_6^2\omega_3^2 - 6cs^2\omega_2\omega_3^3 + 8v_2^2\omega_2\omega_6^2\omega_3^2 + 12cs^2\omega_2\omega_6\omega_3 + 24v_2^2\omega_2\omega_6^2 - v_2^2\omega_6^2\omega_3^2 + 12cs^2\omega_6\omega_3^2 - 30cs^2\omega_2\omega_6\omega_3^2 - 36v_2^2\omega_2\omega_6^2\omega_3 + 12v_2^2\omega_6^2\omega_3 + 9cs^2\omega_2\omega_6\omega_3^2$$

$$C_{21} = 2cs^2v_1^2\omega_5^2\omega_2^3\omega_3^3 - 4cs^2v_2^2\omega_5^2\omega_2^2\omega_6\omega_3^2 + 10cs^2v_2^2\omega_5^2\omega_2\omega_6^2\omega_3^2 + 4v_2^2v_1^2\omega_5^2\omega_2^2\omega_6\omega_3^2 - 2v_2^2v_1^2\omega_2^2\omega_3^2\omega_3^2 + 2cs^2v_1^2\omega_5^2\omega_2^2\omega_6\omega_3^2 - 14v_2^2v_1^2\omega_5^2\omega_2\omega_6^2\omega_3^2 + 10cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3 - 2cs^4\omega_5^2\omega_2^3\omega_6\omega_3^2 - 2v_2^2v_1^2\omega_2^3\omega_6^2\omega_3^2 - 4cs^2v_2^2\omega_5^2\omega_2\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_3^2 + 2cs^2v_2^2\omega_2^3\omega_6^2\omega_3^2 + 2cs^2v_2^2\omega_5^2\omega_2^2\omega_6\omega_3^2 + cs^4\omega_5^2\omega_2^3\omega_6\omega_3^2 - 14v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_3^2 + 12v_2^2v_1^2\omega_5^2\omega_2\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5^2\omega_2^2\omega_6\omega_3^2 - 2v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3 + 14v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3^2 - 10v_2^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^2 + cs^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^2 - 12cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + cs^4\omega_5\omega_2^2\omega_6^2\omega_3^2 + 10cs^2v_2^2\omega_5\omega_2^2\omega_6^2\omega_3^2 - 2cs^2v_2^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 2cs^4\omega_5\omega_2^3\omega_6^2\omega_3^2 + 2cs^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^2 - 8cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 3v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2\omega_3^2 + 4v_2^2v_1^2\omega_5\omega_2^2\omega_6^2\omega_3^2 - 4cs^2v_2^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 4v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 4cs^2v_2^2\omega_5\omega_2^2\omega_6^2\omega_3^2 + cs^2v_2^2\omega_5^2\omega_2^3\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2\omega_6^2\omega_3^2 + 12v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3 - 2cs^4\omega_5^2\omega_2^2\omega_6\omega_3^2 - 2cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3 + 3v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 10cs^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 4v_2^2v_1^2\omega_5\omega_2\omega_6^2\omega_3^2 + 4v_2^2v_1^2\omega_2^2\omega_6^2\omega_3^2 - cs^2v_2^2\omega_5^2\omega_2^3\omega_6\omega_3^2 - 4cs^2v_2^2\omega_2^2\omega_6^2\omega_3^2 - 4cs^2v_2^2\omega_5\omega_2\omega_6^2\omega_3^2 - 3cs^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 - 10v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 4cs^4\omega_5^2\omega_2^2\omega_6\omega_3^2 - 2cs^4\omega_5^2\omega_2\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3 + 2cs^2v_2^2\omega_5^2\omega_2^3\omega_6\omega_3^2 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_6^2 - 8cs^2v_2^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 2cs^2v_2^2\omega_5\omega_2^3\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_6^2 + 4cs^4\omega_5\omega_2^2\omega_6^2\omega_3^2 + 4v_2^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3 - cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^2 - 2v_2^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^2 + 14v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 8cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - cs^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^2 + 8cs^2v_2^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 3cs^2v_2^2\omega_5\omega_2^3\omega_6^2\omega_3^2 - 2cs^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 + 2cs^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^2 + 3v_2^2v_1^2\omega_5\omega_2^3\omega_6^2\omega_3^2 - 28v_2^2v_1^2\omega_5^2\omega_2^2\omega_6^2\omega_3^2 - 2cs^4\omega_5\omega_2^2\omega_6^2\omega_3^2 + 4cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^2 - 4cs^2v_1^2\omega_5^2\omega_2^3\omega_6\omega_3$$

$$C_{22} = 6cs^2\omega_2\omega_6^2\omega_3^3 + 24v_2^2\omega_2^2\omega_6^2\omega_3 + 6cs^2\omega_2^3\omega_3^3 + 6v_2^2\omega_2^3\omega_6\omega_3^3 - 12cs^2\omega_2\omega_6^2\omega_3^2 + 24cs^2\omega_2^3\omega_6^2\omega_3 - 24v_2^2\omega_2^3\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 + 12v_2^2\omega_2^3\omega_6\omega_3 + 22v_2^2\omega_2^2\omega_6^2\omega_3^3 - 14cs^2\omega_2^3\omega_6^2\omega_3^2 - 48v_2^2\omega_2^2\omega_6^2\omega_3^2 + cs^2\omega_2^3\omega_6^2\omega_3^3 - 30v_2^2\omega_2\omega_6^2\omega_3^3 - 6cs^2\omega_2^3\omega_6\omega_3^3 - 18v_2^2\omega_2^3\omega_6^2\omega_3 + 24v_2^2\omega_2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 + 24cs^2\omega_2^3\omega_6\omega_3^2 - 6cs^2\omega_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 - 12cs^2\omega_2^3\omega_6\omega_3 + 22v_2^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 + 12cs^2\omega_2^2\omega_6^2\omega_3^2 + 12v_2^2\omega_2^3\omega_3^2 - 4v_2^2\omega_2^3\omega_6^2\omega_3^3$$

$$C_{23} = 12v_1^2\omega_2^2\omega_3^3 - 14cs^2\omega_5^2\omega_2^2\omega_3^3 + 6v_1^2\omega_5\omega_2^3\omega_3^3 + 12v_1^2\omega_5^2\omega_2^2 + 6cs^2\omega_2^3\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_5\omega_2\omega_3^3 + 12cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5^2\omega_3^3 - 12cs^2\omega_2^2\omega_3^3 - 24v_1^2\omega_5\omega_2^2\omega_3^3 + cs^2\omega_5^2\omega_2^3\omega_3^3 + 24v_1^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 - 18v_1^2\omega_5^2\omega_2\omega_3^3 - 6cs^2\omega_5^2\omega_2^3\omega_3^2 - 30v_1^2\omega_5^2\omega_2^3\omega_3 + 22v_1^2\omega_5^2\omega_2^2\omega_3^3 - 6cs^2\omega_5\omega_2^3\omega_3^3 - 48v_1^2\omega_5^2\omega_2^2\omega_3^2 + 12v_1^2\omega_5\omega_2\omega_3^3 + 24v_1^2\omega_5^2\omega_2^2\omega_3 + 24cs^2\omega_5\omega_2^2\omega_3^3 - 4v_1^2\omega_5^2\omega_2^3\omega_3^3 + 22v_1^2\omega_5^2\omega_2^3\omega_3^2 + 24cs^2\omega_5^2\omega_2\omega_3^3$$

$$C_{24} = \omega_6^2\omega_3^3 + 72v_2^2\omega_6\omega_3 - 6cs^2\omega_3^3 - 11\omega_6^2\omega_3^2 - 36v_2^2\omega_6^2 - 48cs^2\omega_6^2\omega_3 + 12cs^2\omega_3^2 + 6\omega_3^3 + 27v_2^2\omega_6\omega_3^2 + 12\omega_6^2\omega_3 + 25cs^2\omega_6^2\omega_3^2 - 12\omega_3^2 - 2cs^2\omega_6^2\omega_3^2 - 108v_2^2\omega_6\omega_3^2 + 9cs^2\omega_6\omega_3^2 + 15v_2^2\omega_6^2\omega_3^2 - 3v_2^2\omega_6^2\omega_3^2 - 36cs^2\omega_6\omega_3^2 - 24\omega_6\omega_3 + 24cs^2\omega_6^2 + 24cs^2\omega_6\omega_3 + 36\omega_6\omega_3^2 + 36v_2^2\omega_3^2 - 9\omega_6\omega_3^2 + 18v_2^2\omega_6^2\omega_3 - 18v_2^2\omega_3^2$$

$$C_{25} = -3\omega_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^2 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 18cs^2\omega_2^3\omega_3^2 + 12\omega_2^3\omega_6\omega_3 + 12cs^2\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 + 36cs^2\omega_2^3\omega_6^2\omega_3 + \omega_2^2\omega_6^2\omega_3^2 + 12v_2^2\omega_2^3\omega_6\omega_3^2 - 36cs^2\omega_2^3\omega_3^2 - 24v_2^2\omega_2^3\omega_6\omega_3 + 6\omega_2^3\omega_3^2 + 6v_2^2\omega_2^2\omega_6^2\omega_3^2 - 21\omega_2^3\omega_6\omega_3^2 - 36cs^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^2\omega_6^2\omega_3^2 - 3\omega_2^3\omega_3^2 + 6cs^2\omega_2^3\omega_6^2\omega_3^2 + 6\omega_2^3\omega_6\omega_3^2 - 12v_2^2\omega_2\omega_6^2\omega_3^2 - 24cs^2\omega_2^3\omega_6\omega_3^2 - \omega_2^3\omega_6^2\omega_3^2 - 12cs^2\omega_2^2\omega_6^2\omega_3 + 12v_2^2\omega_2^3\omega_6^2\omega_3 + 6v_2^2\omega_2\omega_6^2\omega_3^2 + 7\omega_2^3\omega_6^2\omega_3^2 + 6v_2^2\omega_6^2\omega_3^2 + 72cs^2\omega_2^3\omega_6\omega_3^2 - 12cs^2\omega_2^2\omega_6^2\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_6^2 - 24cs^2\omega_2^3\omega_6\omega_3 - 6v_2^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 + 36cs^2\omega_2^2\omega_6^2\omega_3^2 + 12v_2^2\omega_2^3\omega_3^2$$

$$C_{26} = -\omega_6^2\omega_3^3 - 60v_2^2\omega_6\omega_3 + 30cs^2\omega_3^3 + 11\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2 + 18cs^2\omega_6^2\omega_3 - 60cs^2\omega_3^2 - 6\omega_3^3 - 6v_2^2\omega_6\omega_3^2 - 12\omega_6^2\omega_3 - 26cs^2\omega_6^2\omega_3^2 + 12\omega_3^2 + 4cs^2\omega_6^2\omega_3^2 + 48v_2^2\omega_6\omega_3^2 - 30cs^2\omega_6\omega_3^2 - 14v_2^2\omega_6^2\omega_3^2 + v_2^2\omega_6^2\omega_3^2 + 96cs^2\omega_6\omega_3^2 + 24\omega_6\omega_3 - 36cs^2\omega_6\omega_3 - 36\omega_6\omega_3^2 + 12v_2^2\omega_3^2 + 9\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3 - 6v_2^2\omega_3^2$$

$$C_{27} = -6\omega_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^2 - 24v_2^2\omega_2^2\omega_6^2 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2^3\omega_3^2 + 12cs^2\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 2\omega_2^2\omega_6^2\omega_3^2 - 12v_2^2\omega_2^3\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 + 12v_2^2\omega_2^3\omega_6\omega_3 - 6\omega_2^3\omega_6\omega_3^2 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 + 12v_2^2\omega_2^2\omega_6^2\omega_3^2 + 4cs^2\omega_2^3\omega_6^2\omega_3^2 + 3\omega_2^3\omega_6\omega_3^2 - 18v_2^2\omega_2\omega_6^2\omega_3^2 - 24v_2^2\omega_2^2\omega_6\omega_3^2 - 12cs^2\omega_2^3\omega_6\omega_3^2 - \omega_2^3\omega_6^2\omega_3^2 - 24cs^2\omega_2^2\omega_6^2\omega_3 + 30v_2^2\omega_2^3\omega_6^2\omega_3 + 12v_2^2\omega_2^2\omega_6\omega_3^2 + 3\omega_2^3\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 -$$

$$12cs^2\omega_2^2\omega_6^2\omega_3^3 - 6\omega_2^2\omega_6\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 - 12cs^2\omega_2^3\omega_6\omega_3 - 12v_2^2\omega_2^3\omega_6^2\omega_3^2 - 6v_2^2\omega_2^3\omega_3^3 + 12\omega_2^2\omega_6\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 + 12v_2^2\omega_2^3\omega_3^2 + 3v_2^2\omega_2^3\omega_6^2\omega_3^3$$

$C_{28} =$
$$-36cs^2v_2^2\omega_6^2\omega_3 - 30v_2^4\omega_6\omega_3^3 + 24cs^4\omega_6^2\omega_3^2 + 12cs^2\omega_6^2\omega_3 - 3cs^4\omega_6^2\omega_3^3 + 72v_2^4\omega_6\omega_3^2 + 30v_2^2\omega_6\omega_3^3 + 36v_2^4\omega_3^3 + 6cs^2v_2^2\omega_6^2\omega_3^3 - 8cs^2\omega_6^2\omega_3^2 - 48cs^4\omega_6^2\omega_3 + 24cs^4\omega_6^2 - 12cs^2v_2^2\omega_6^2\omega_3^2 + cs^2\omega_6^2\omega_3^3 - 72v_2^4\omega_3^2 - 72v_2^2\omega_6\omega_3^2 + 108cs^2v_2^2\omega_3^3 + 24cs^4\omega_6\omega_3 - 6cs^2\omega_6\omega_3^3 + 144cs^2v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3^2 - 216cs^2v_2^2\omega_3^2 - 3v_2^2\omega_6^2\omega_3^3 + 24cs^2\omega_6\omega_3^2 - 72cs^2v_2^2\omega_6\omega_3^3 - 24cs^2\omega_6\omega_3 + 6cs^4\omega_6\omega_3^3 + 72v_2^2\omega_3^2 - 12v_2^4\omega_6^2\omega_3^2 + 72cs^2v_2^2\omega_6\omega_3 + 3v_2^4\omega_6^2\omega_3^3 - 36v_2^2\omega_3^3 - 24cs^4\omega_6\omega_3^2$$

$$C_{29} = -\omega_6^2\omega_3^3 + 60v_2^2\omega_6\omega_3 + 30cs^2\omega_3^3 + 2\omega_6^2\omega_3^2 - 12v_2^2\omega_6^2 - 30cs^2\omega_6^2\omega_3 - 60cs^2\omega_3^2 - 18\omega_3^3 - 24v_2^2\omega_6\omega_3^3 + 6\omega_6^2\omega_3 - 2cs^2\omega_6^2\omega_3^2 + 36\omega_3^2 + cs^2\omega_6^2\omega_3^3 + 24v_2^2\omega_6\omega_3^2 - 24cs^2\omega_6\omega_3^3 + 2v_2^2\omega_6^2\omega_3^2 + 2v_2^2\omega_6^2\omega_3^3 + 72cs^2\omega_6\omega_3^2 - 12\omega_6\omega_3 + 24cs^2\omega_6^2 - 12cs^2\omega_6\omega_3 - 24\omega_6\omega_3^2 - 84v_2^2\omega_3^2 + 12\omega_6\omega_3^3 - 12v_2^2\omega_6^2\omega_3 + 42v_2^2\omega_3^3$$

$$C_{30} = -12\omega_4v_1^2\omega_2^2 + 12cs^2\omega_5^2\omega_2 + 12\omega_4cs^2\omega_5\omega_2 - 9\omega_4v_1^2\omega_5\omega_2^2 - v_1^2\omega_5^2\omega_2^3 + 6\omega_4v_1^2\omega_2^3 - 6v_1^2\omega_5^2\omega_2^2 + 30\omega_4v_1^2\omega_5\omega_2^2 + 24\omega_4v_1^2\omega_5^2 - 12\omega_4v_1^2\omega_5\omega_2 + 12v_1^2\omega_5^2\omega_2 + 3cs^2\omega_5^2\omega_2^3 + 9\omega_4cs^2\omega_5\omega_2^3 - 30\omega_4cs^2\omega_5\omega_2^2 - 18cs^2\omega_5^2\omega_2^2 - 6\omega_4cs^2\omega_2^3 + 12\omega_4cs^2\omega_5^2 + 22\omega_4cs^2\omega_5^2\omega_2^2 + 12cs^2\omega_5\omega_2^2 - 36\omega_4v_1^2\omega_5^2\omega_2 + 12\omega_4cs^2\omega_2^2 - 6cs^2\omega_5\omega_2^3 - 2\omega_4cs^2\omega_5^2\omega_2^3 - 12v_1^2\omega_5\omega_2^2 + 8\omega_4v_1^2\omega_5^2\omega_2^2 - 30\omega_4cs^2\omega_5^2\omega_2 + \omega_4v_1^2\omega_5^2\omega_2^3 + 6v_1^2\omega_5\omega_2^3$$

$$C_{31} = 36\omega_4^2cs^2\omega_5^2\omega_2^2 + 12\omega_4^3\omega_5\omega_2 + 6v_1^2\omega_5^2\omega_2^3 + \omega_4^2\omega_5^2\omega_2^3 + 36\omega_4^3cs^2\omega_5^2\omega_2 - 6\omega_4^3v_1^2\omega_5^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 - 3\omega_4^2\omega_2^2\omega_2^2 + 6\omega_4^3cs^2\omega_5^2\omega_2^3 - 6\omega_4^2v_1^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_5\omega_2^3 - 6\omega_4^3v_1^2\omega_2^3 + 12\omega_4^3v_1^2\omega_5^2\omega_2 + 6\omega_4^2v_1^2\omega_5^2\omega_2^3 - 21\omega_4^3\omega_5\omega_2^2 - 36\omega_4^3cs^2\omega_5^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2 + 12\omega_4^3v_1^2\omega_2^2 + 7\omega_4^3\omega_5^2\omega_2^2 - 3\omega_4^3\omega_2^3 + 72\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2 - 24\omega_4^3cs^2\omega_5\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3 + 6\omega_4^3\omega_2^2 - 24\omega_4^3v_1^2\omega_5\omega_2 + 6\omega_4cs^2\omega_5^2\omega_2^3 + 12\omega_4^3v_1^2\omega_5\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^3 + 6\omega_4^2\omega_5\omega_2^2 + 6\omega_4v_1^2\omega_5^2\omega_2^2 - 36\omega_4^3cs^2\omega_2^2 - 12\omega_4^3cs^2\omega_5^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2 + 18\omega_4^3cs^2\omega_2^3 - 24\omega_4^3cs^2\omega_5\omega_2 - 12\omega_4v_1^2\omega_5^2\omega_2^3 - 3\omega_4^2\omega_5\omega_2^2$$

$$C_{32} = 48\omega_4^2cs^2\omega_5^2\omega_2^2 + 3\omega_4^3v_1^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 + 2\omega_4^2\omega_5^2\omega_2^3 + 36\omega_4^3cs^2\omega_5^2\omega_2 - 12\omega_4^3v_1^2\omega_5^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 - 6\omega_4^2\omega_5^2\omega_2^2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 - 24\omega_4^3v_1^2\omega_5^2 + 12\omega_4^2v_1^2\omega_5^2\omega_2^2 + 3\omega_4^3\omega_5\omega_2^3 - 6\omega_4^3v_1^2\omega_2^3 + 30\omega_4^3v_1^2\omega_5^2\omega_2 - 6\omega_4^3\omega_5\omega_2^2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 12\omega_4^3v_1^2\omega_2^2 + 3\omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^2v_1^2\omega_5\omega_2^3 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^2 - 12\omega_4^3cs^2\omega_5\omega_2^3 - \omega_4^3\omega_5^2\omega_2^3 - 24\omega_4^2v_1^2\omega_5\omega_2^2 + 12\omega_4^3v_1^2\omega_5\omega_2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 12\omega_4^3v_1^2\omega_5\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 - 12\omega_4^3cs^2\omega_5^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 + 6\omega_4^3cs^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2 - 18\omega_4v_1^2\omega_5^2\omega_2^3 - 6\omega_4^2\omega_5\omega_2^3$$

$$C_{33} = 11\omega_5^2\omega_2^2 + 12\omega_2^2 + 18cs^2\omega_5^2\omega_2 + v_1^2\omega_5^2\omega_2^3 - 6\omega_2^3 - \omega_5^2\omega_2^3 - 14v_1^2\omega_5^2\omega_2^2 + 12v_1^2\omega_5^2\omega_2 - 60cs^2\omega_2^2 + 4cs^2\omega_5^2\omega_2^3 - 12\omega_5^2\omega_2 - 26cs^2\omega_5^2\omega_2^2 + 30cs^2\omega_2^3 + 96cs^2\omega_5\omega_2^2 + 24\omega_5\omega_2 - 60v_1^2\omega_5\omega_2 - 30cs^2\omega_5\omega_2^3 + 9\omega_5\omega_2^3 + 12v_1^2\omega_5^2 + 48v_1^2\omega_5\omega_2^2 - 6v_1^2\omega_2^3 - 36cs^2\omega_5\omega_2 - 36\omega_5\omega_2^2 + 12v_1^2\omega_2^2 - 6v_1^2\omega_5\omega_2^3$$

$$C_{34} = 18\omega_4^3\omega_2\omega_3 - 12\omega_4\omega_2\omega_3^2 + 18\omega_4\omega_2\omega_3^3 - 6\omega_4\omega_3^3 + 3\omega_4^3\omega_2\omega_3^3 - 16\omega_4^3\omega_2\omega_3^2 - 12\omega_4^2\omega_3^2 - 12\omega_4^2\omega_2\omega_3 - 6\omega_4^3\omega_3 + 12\omega_4^2\omega_3^3 + 30\omega_4^2\omega_2\omega_3^2 + 12\omega_4^3\omega_3^2 - 6\omega_2\omega_3^3 - 6\omega_4^3\omega_2 - 4\omega_4^3\omega_3^3 - 16\omega_4^2\omega_2\omega_3^3$$

$$C_{35} = 18\omega_4^3\omega_2\omega_3 - 16\omega_4^2\omega_2^3\omega_3 - 6\omega_2^3\omega_3 - 6\omega_4\omega_2^3 + 30\omega_4^2\omega_2^2\omega_3 - 4\omega_4^3\omega_2^3 - 12\omega_4\omega_2^2\omega_3 + 12\omega_4^3\omega_2^2 - 12\omega_4^2\omega_2\omega_3 + 3\omega_4^3\omega_2^3\omega_3 - 6\omega_4^3\omega_3 + 18\omega_4\omega_2^3\omega_3 + 12\omega_4^2\omega_2^3 - 6\omega_4^3\omega_2 - 16\omega_4^3\omega_2^2\omega_3 - 12\omega_4^2\omega_2^2$$

$$C_{36} = -12\omega_4\omega_2\omega_3^2 - 12\omega_2^2\omega_3^2 + 18\omega_4\omega_2\omega_3^3 - 6\omega_2^3\omega_3 + 12\omega_2^2\omega_3^3 - 6\omega_4\omega_2^3 + 12\omega_2^3\omega_3^2 - 6\omega_4\omega_3^3 - 4\omega_2^3\omega_3^3 - 12\omega_4\omega_2^2\omega_3 + 3\omega_4\omega_2^3\omega_3^3 - 16\omega_4\omega_2^3\omega_3^2 + 18\omega_4\omega_2^3\omega_3 - 16\omega_4\omega_2^2\omega_3^3 - 6\omega_2\omega_3^3 + 30\omega_4\omega_2^2\omega_3^2$$

$$C_{37} = -2\omega_4^2cs^2\omega_5^2\omega_2\omega_3^3 - 8\omega_4^2v_1^2\omega_5^2\omega_2^2\omega_3^2 + \omega_4^3cs^2\omega_2^2\omega_3^3 + 3\omega_4^3v_1^2\omega_5^2\omega_2^2 + 6\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^2 - \omega_4^3v_1^2\omega_5\omega_2^3\omega_3^2 - 2\omega_4^3cs^2\omega_5\omega_2\omega_3^3 + 2\omega_4^3v_1^2\omega_2^2\omega_3^3 - 8\omega_4v_1^2\omega_5^2\omega_2^2\omega_3^3 - 2\omega_4^3cs^2\omega_5^2\omega_3^3 - 2\omega_4^2cs^2\omega_5\omega_2^2\omega_3^3 + 7\omega_4^2v_1^2\omega_5^2\omega_2^2\omega_3^3 + 3\omega_4v_1^2\omega_5^2\omega_2^2\omega_3^2 + \omega_4^3cs^2\omega_5^2\omega_2^2\omega_3 + 2\omega_4^3v_1^2\omega_5\omega_2^2\omega_3^3 - 6\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^3 + 4\omega_4v_1^2\omega_5^2\omega_2^2\omega_3^3 - \omega_4^3v_1^2\omega_2^2\omega_3^3 + 2\omega_4^3v_1^2\omega_5\omega_2^2\omega_3^2 - 2\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3^3 - 7\omega_4^3v_1^2\omega_5^2\omega_2\omega_3^3 - 2\omega_4^3cs^2\omega_2^2\omega_3^3 + 4\omega_4^2v_1^2\omega_5^2\omega_2^2\omega_3^2 + 3\omega_4^3v_1^2\omega_5^2\omega_2\omega_3^2 - 2\omega_4^3cs^2\omega_5^2\omega_2^2\omega_3 + \omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 - 6\omega_4^3v_1^2\omega_5\omega_2^2\omega_3^3 + 2\omega_4^3v_1^2\omega_5^2\omega_3^3 - 10\omega_4^2v_1^2\omega_5^2\omega_2^2\omega_3^3 + \omega_4^2cs^2\omega_5\omega_2^3\omega_3^3 + 3\omega_4^2v_1^2\omega_5^2\omega_2^3\omega_3 + 2\omega_4^3v_1^2\omega_5\omega_2\omega_3^3 - 10\omega_4^3v_1^2\omega_5^2\omega_2^2\omega_3^2 + \omega_4^3cs^2\omega_5\omega_2^3\omega_3^3 + \omega_4cs^2\omega_5^2\omega_2^3\omega_3^3 + \omega_4^2cs^2\omega_5^2\omega_2^3\omega_3^2 + 3\omega_4^2v_1^2\omega_5^2\omega_2\omega_3^3 - 2\omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 + 8\omega_4^3v_1^2\omega_5^2\omega_2^2\omega_3^3 - 8\omega_4^3v_1^2\omega_5^2\omega_2^3\omega_3 + 2\omega_4^2v_1^2\omega_5\omega_2^2\omega_3^3 - 2\omega_4^2cs^2\omega_5^2\omega_2^3\omega_3^3 - 2\omega_4^2cs^2\omega_5^2\omega_2^2\omega_3^2 - 2\omega_4cs^2\omega_5^2\omega_2^2\omega_3^3 + 3v_1^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^3cs^2\omega_5^2\omega_2\omega_3^3 - 2\omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 + 7\omega_4^3v_1^2\omega_5^2\omega_2^3\omega_3^2 + 6\omega_4^2cs^2\omega_5^2\omega_2^2\omega_3^3 - \omega_4^2v_1^2\omega_5\omega_2^3\omega_3^3 - 2\omega_4^3v_1^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^3cs^2\omega_5\omega_2^2\omega_3^3 + 4\omega_4^3v_1^2\omega_5^2\omega_2^2\omega_3 - 2\omega_4^3cs^2\omega_5^2\omega_2\omega_3^2$$

$$C_{38} = -30\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^2\omega_2^3\omega_3 + 12\omega_4^2\omega_2^2\omega_3^2 + 24\omega_4^2\omega_2^3\omega_3^2 - 36\omega_4^3\omega_2\omega_3^3 + 12\omega_2^3\omega_3^3 + 18\omega_4^3\omega_2\omega_3^2 - 42\omega_4^2\omega_2^2\omega_3^2 + 12\omega_4^3\omega_3^2 - 30\omega_4^3\omega_2^2\omega_3^2 - 30\omega_4\omega_2^3\omega_3^3 + 18\omega_4\omega_2^3\omega_3^2 - 30\omega_4^3\omega_2^3\omega_3 + 28\omega_4^3\omega_2^2\omega_3^3 + 6\omega_4\omega_2^2\omega_3^3 + 24\omega_4^3\omega_2^2\omega_3^2 + 6\omega_4^3\omega_2^2\omega_3 + 12\omega_4^3\omega_3^3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^2\omega_2\omega_3^3$$

$$C_{39} = 48\omega_4^2cs^2\omega_5^2\omega_2^2 - 5\omega_4^3v_1^2\omega_5^2\omega_2^3 + 12v_1^2\omega_5^2\omega_2^3 + 36\omega_4^3cs^2\omega_5^2\omega_2 + 16\omega_4^3v_1^2\omega_5^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 - 36\omega_4^2v_1^2\omega_5^2\omega_2^2 - 6\omega_4^3v_1^2\omega_2^3 - 6\omega_4^3v_1^2\omega_5^2\omega_2 + 24\omega_4^2v_1^2\omega_5^2\omega_2^3 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 24\omega_4^2cs^2\omega_5^2\omega_2 + 12\omega_4^3v_1^2\omega_2^2 - 12\omega_4^2v_1^2\omega_5\omega_2^3 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2 - 12\omega_4^3cs^2\omega_5\omega_2^3 + 24\omega_4^2v_1^2\omega_5\omega_2^2 + 12\omega_4^3v_1^2\omega_5\omega_2 + 6\omega_4cs^2\omega_5^2\omega_2^3 - 36\omega_4^3v_1^2\omega_5\omega_2^2 + 12\omega_4^2cs^2\omega_5\omega_2^3 + 24\omega_4v_1^2\omega_5^2\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 - 12\omega_4^3cs^2\omega_5^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 + 12\omega_4^3v_1^2\omega_5\omega_2^3 + 6\omega_4^3cs^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2 - 30\omega_4v_1^2\omega_5^2\omega_2^3$$

$$C_{40} = 12v_1^2\omega_2^2\omega_3^3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 12v_1^2\omega_5\omega_2^2\omega_3^3 + 12v_1^2\omega_5^2\omega_2^3 + 6cs^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_5\omega_2\omega_3^3 - 12v_1^2\omega_5\omega_2^3\omega_3^2 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 12cs^2\omega_5^2\omega_2^3 - 12cs^2\omega_2^2\omega_3^3 - 36v_1^2\omega_5\omega_2^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 6v_1^2\omega_2^3\omega_3^3 - 6v_1^2\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 + 24v_1^2\omega_5\omega_2^2\omega_3^2 - 30v_1^2\omega_5^2\omega_2^3\omega_3 + 16v_1^2\omega_5^2\omega_2^2\omega_3^3 - 12cs^2\omega_5\omega_2^3\omega_3^3 + 12cs^2\omega_5\omega_2^2\omega_3^2 - 36v_1^2\omega_5^2\omega_2^2\omega_3^2 + 12v_1^2\omega_5\omega_2\omega_3^3 + 24v_1^2\omega_5^2\omega_2^2\omega_3 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 36cs^2\omega_5\omega_2^2\omega_3^3 - 5v_1^2\omega_5^2\omega_2^3\omega_3^3 + 24v_1^2\omega_5^2\omega_2^3\omega_3^2 - 24cs^2\omega_5\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2\omega_3^3$$

$$C_{41} = 6\omega_4v_2^2\omega_3^3 - 36\omega_4v_2^2\omega_6^2\omega_3 - 12\omega_4v_2^2\omega_3^2 + 12\omega_4cs^2\omega_6\omega_3 + 12cs^2\omega_6^2\omega_3 + 12\omega_4cs^2\omega_6^2 + \omega_4v_2^2\omega_6^2\omega_3^3 + 6v_2^2\omega_6\omega_3^3 - 18cs^2\omega_6^2\omega_3^2 - 30\omega_4cs^2\omega_6\omega_3^2 + 9\omega_4cs^2\omega_6\omega_3^3 + 3cs^2\omega_6^2\omega_3^3 - 12v_2^2\omega_6\omega_3^2 + 8\omega_4v_2^2\omega_6^2\omega_3^2 - 2\omega_4cs^2\omega_6^2\omega_3^3 - 6cs^2\omega_6\omega_3^3 - 6v_2^2\omega_6^2\omega_3^2 + 30\omega_4v_2^2\omega_6\omega_3^2 - 9\omega_4v_2^2\omega_6\omega_3^3 - v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_6\omega_3^2 + 22\omega_4cs^2\omega_6^2\omega_3^2 + 12\omega_4cs^2\omega_3^2 - 30\omega_4cs^2\omega_6^2\omega_3 + 24\omega_4v_2^2\omega_6^2 - 12\omega_4v_2^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3 - 6\omega_4cs^2\omega_3^3$$

$$C_{42} = -2\omega_4^3cs^2\omega_2\omega_6^2\omega_3^2 + 7\omega_4^2v_2^2\omega_2^3\omega_6^2\omega_3^3 + \omega_4^3cs^2\omega_2^2\omega_6\omega_3^3 + \omega_4^3cs^2\omega_2^3\omega_3^3 + 6\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3 - 6\omega_4^3v_2^2\omega_2^3\omega_6\omega_3^2 - 2\omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^2 + 4\omega_4v_2^2\omega_2^3\omega_6^2\omega_3^2 + 2\omega_4^3v_2^2\omega_2^3\omega_6^2 - 2\omega_4^3cs^2\omega_2^3\omega_3^3 - 2\omega_4^3cs^2\omega_2^2\omega_6\omega_3^2 - 10\omega_4^2v_2^2\omega_2^3\omega_6^2\omega_3^2 + \omega_4^3cs^2\omega_2\omega_6^2\omega_3^3 - 8\omega_4v_2^2\omega_2^3\omega_6^2\omega_3^3 + 3\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3 + \omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^3 + 2\omega_4^3v_2^2\omega_2^3\omega_6\omega_3^3 - 10\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3^3 - 2\omega_4^2cs^2\omega_2^3\omega_6\omega_3^3 + \omega_4^3cs^2\omega_2^3\omega_6^2\omega_3^3 + 3\omega_4^2v_2^2\omega_2^3\omega_6^2\omega_3 + 2\omega_4^3v_2^2\omega_2^3\omega_6\omega_3 + \omega_4^2cs^2\omega_2^3\omega_6\omega_3^3 + 7\omega_4^3v_2^2\omega_2^2\omega_6^2\omega_3^3 - 6\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3^2 + 3\omega_4^2v_2^2\omega_2\omega_6^2\omega_3^3 + 3\omega_4v_2^2\omega_2^2\omega_6^2\omega_3^3 - 7\omega_4^3v_2^2\omega_2^3\omega_6^2\omega_3 + 4\omega_4^3v_2^2\omega_2\omega_6^2\omega_3^2 - 2\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3 - \omega_4^3v_2^2\omega_2^2\omega_6\omega_3^3 - 2\omega_4cs^2\omega_2^3\omega_6^2\omega_3^3 + 6\omega_4^3cs^2\omega_2^3\omega_6\omega_3^3 + 4\omega_4^2v_2^2\omega_2^2\omega_6^2\omega_3^3 + 2\omega_4^3v_2^2\omega_2^2\omega_6\omega_3^3 + 6\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3 + 3\omega_4^3v_2^2\omega_6^2\omega_3^3 - 8\omega_4^3v_2^2\omega_2\omega_6^2\omega_3^3 - 8\omega_4^2v_2^2\omega_2^2\omega_6^2\omega_3^3 -$$

$$2\omega_4^3cs^2\omega_2^3\omega_6\omega_3^3+\omega_4cs^2\omega_2^3\omega_6^2\omega_3^3-2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3+6\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^2-\omega_4^3v_2^2\omega_2^3\omega_3^3+2\omega_4^2v_2^2\omega_2^3\omega_6\omega_3^2-2\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3-2\omega_4^3cs^2\omega_2^3\omega_6^2-2\omega_4^3v_2^2\omega_2^3\omega_6^2\omega_3^3-\omega_4^2v_2^2\omega_2^3\omega_6\omega_3^3+2\omega_4^3v_2^2\omega_2^3\omega_3^2-2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^3-2\omega_4^3cs^2\omega_2^3\omega_6\omega_3+8\omega_4^3v_2^2\omega_2^3\omega_6^2\omega_3^2+3v_2^2\omega_2^3\omega_6^2\omega_3^3$$

$$C_{43}=24\omega_4^2v_2^2\omega_6\omega_3^2-12\omega_4^2cs^2\omega_6^2\omega_3^3+12\omega_4^3v_2^2\omega_6\omega_3+48\omega_4^2cs^2\omega_6^2\omega_3^2-12\omega_4^2v_2^2\omega_6\omega_3^3+36\omega_4^3cs^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6^2+12\omega_4^3v_2^2\omega_6\omega_3^3-32\omega_4^3cs^2\omega_6^2\omega_3^2-30\omega_4v_2^2\omega_6^2\omega_3^3-24\omega_4^2cs^2\omega_6^2\omega_3+12\omega_4^3v_2^2\omega_3^2+4\omega_4^3cs^2\omega_6^2\omega_3^3-36\omega_4^3v_2^2\omega_6\omega_3^2-6\omega_4^3v_2^2\omega_3^3+24\omega_4v_2^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3^3+16\omega_4^3v_2^2\omega_6^2\omega_3^2+6\omega_4^3cs^2\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3-5\omega_4^3v_2^2\omega_6^2\omega_3^3+36\omega_4^3cs^2\omega_6\omega_3^2+12v_2^2\omega_6^2\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_3^2-24\omega_4^2cs^2\omega_6\omega_3^2+24\omega_4^2v_2^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_6\omega_3-36\omega_4^2v_2^2\omega_6^2\omega_3^2+12\omega_4^2cs^2\omega_6\omega_3^3-6\omega_4^3v_2^2\omega_6^2\omega_3$$

$$C_{44}=-42\omega_4^2\omega_2^2\omega_3^3+18\omega_4^2\omega_2^3\omega_3+12\omega_4^2\omega_2^2\omega_3^2+24\omega_4^2\omega_2^3\omega_3^3-30\omega_4^3\omega_2\omega_3^3+12\omega_2^3\omega_3^3+6\omega_4^3\omega_2\omega_3^2-30\omega_4^2\omega_2^3\omega_3^2+12\omega_4^3\omega_2^2-30\omega_4^3\omega_2^2\omega_3^2-30\omega_4\omega_2^3\omega_3^3+6\omega_4\omega_2^2\omega_3^2-36\omega_4^3\omega_2^3\omega_3+24\omega_4^3\omega_2^2\omega_3^3+18\omega_4\omega_2^2\omega_3^3+28\omega_4^3\omega_2^3\omega_3^2+18\omega_4^3\omega_2^2\omega_3+12\omega_4^3\omega_3^3-5\omega_4^3\omega_2^3\omega_3^3+18\omega_4^2\omega_2\omega_3^3$$

$$C_{45}=6cs^2\omega_2\omega_6^2\omega_3^3-24cs^2\omega_2^2\omega_6\omega_3^2+6cs^2\omega_2^3\omega_3^3+12v_2^2\omega_2^3\omega_6\omega_3^3+12cs^2\omega_2^2\omega_6\omega_3^3-12cs^2\omega_2\omega_6^2\omega_3^2+36cs^2\omega_2^3\omega_6^2\omega_3-36v_2^2\omega_2^3\omega_6\omega_3^2-12cs^2\omega_2^3\omega_3^2+12v_2^2\omega_2^3\omega_6\omega_3+24v_2^2\omega_2^2\omega_6^2\omega_3^3-32cs^2\omega_2^3\omega_6^2\omega_3^2-36v_2^2\omega_2^2\omega_6^2\omega_3^2+4cs^2\omega_2^3\omega_6^2\omega_3^3-30v_2^2\omega_2\omega_6^2\omega_3^3+24v_2^2\omega_2^2\omega_6\omega_3^2-12cs^2\omega_2^3\omega_6\omega_3^3-24cs^2\omega_2^2\omega_6^2\omega_3-6v_2^2\omega_2^3\omega_6^2\omega_3-12v_2^2\omega_2^2\omega_6\omega_3^3+24v_2^2\omega_2\omega_6^2\omega_3^2+12v_2^2\omega_6^2\omega_3^3+36cs^2\omega_2^3\omega_6\omega_3^2-12cs^2\omega_2^2\omega_6^2\omega_3^3-12cs^2\omega_2^3\omega_6^2-12cs^2\omega_2^2\omega_6\omega_3+16v_2^2\omega_2^3\omega_6^2\omega_3^2-6v_2^2\omega_2^3\omega_3^3+48cs^2\omega_2^2\omega_6^2\omega_3^2+12v_2^2\omega_2^3\omega_3^2-5v_2^2\omega_2^3\omega_6^2\omega_3^3$$

$$C_{46}=-12\omega_4^2cs^2\omega_6^2\omega_3^3-3\omega_4^2\omega_6^2\omega_3^2-24\omega_4^3v_2^2\omega_6\omega_3+36\omega_4^2cs^2\omega_6^2\omega_3^2+12\omega_4^3\omega_6\omega_3+\omega_4^2\omega_6^2\omega_3^3+36\omega_4^3cs^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6^2-21\omega_4^3\omega_6\omega_3^2-36\omega_4^3cs^2\omega_6^2\omega_3^2-12\omega_4v_2^2\omega_6^2\omega_3^3-12\omega_4^2cs^2\omega_6^2\omega_3+12\omega_4^3v_2^2\omega_3^2+6\omega_4^3cs^2\omega_6^2\omega_3^3+6\omega_4^3\omega_6\omega_3^3+12\omega_4^3v_2^2\omega_6\omega_3^2-6\omega_4^3v_2^2\omega_3^3+6\omega_4v_2^2\omega_6^2\omega_3^2-24\omega_4^3cs^2\omega_6\omega_3^3-6\omega_4^3v_2^2\omega_6^2\omega_3^3-\omega_4^3\omega_6^2\omega_3^3+18\omega_4^3cs^2\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3+7\omega_4^3\omega_6^2\omega_3^2+72\omega_4^3cs^2\omega_6\omega_3^2+6v_2^2\omega_6^2\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^2-36\omega_4^3cs^2\omega_3^2-24\omega_4^2cs^2\omega_6\omega_3^2+6\omega_4^2v_2^2\omega_6^2\omega_3^3+6\omega_4^3\omega_3^2-6\omega_4^3\omega_6^2\omega_3-24\omega_4^3cs^2\omega_6\omega_3-3\omega_4^2\omega_6\omega_3^3-3\omega_4^3\omega_3^3-6\omega_4^2v_2^2\omega_6^2\omega_3^2+12\omega_4^2cs^2\omega_6\omega_3^3+6\omega_4^2\omega_6\omega_3^2+12\omega_4^3v_2^2\omega_6^2\omega_3$$

$$C_{47}=-24\omega_4^2v_2^2\omega_6\omega_3^2-12\omega_4^2cs^2\omega_6^2\omega_3^3-6\omega_4^2\omega_6^2\omega_3^2+12\omega_4^3v_2^2\omega_6\omega_3+48\omega_4^2cs^2\omega_6^2\omega_3^2+12\omega_4^2v_2^2\omega_6\omega_3^3+2\omega_4^2\omega_6^2\omega_3^3+36\omega_4^3cs^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6^2-6\omega_4^3\omega_6\omega_3^2-32\omega_4^3cs^2\omega_6^2\omega_3^2-18\omega_4v_2^2\omega_6^2\omega_3^3-24\omega_4^2cs^2\omega_6^2\omega_3+12\omega_4^3v_2^2\omega_3^2+4\omega_4^3cs^2\omega_6^2\omega_3^3+3\omega_4^3\omega_6\omega_3^3-12\omega_4^3v_2^2\omega_6\omega_3^2-6\omega_4^3v_2^2\omega_3^3-12\omega_4^3cs^2\omega_6\omega_3^3-12\omega_4^3v_2^2\omega_6^2\omega_3^3-\omega_4^3\omega_6^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3-24\omega_4^3v_2^2\omega_6^2+3\omega_4^3\omega_6^2\omega_3^2+3\omega_4^3v_2^2\omega_6^2\omega_3^3+36\omega_4^3cs^2\omega_6\omega_3^2+12v_2^2\omega_6^2\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_3^2-24\omega_4^2cs^2\omega_6\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3-6\omega_4^2\omega_6\omega_3^3+12\omega_4^2v_2^2\omega_6^2\omega_3^2+12\omega_4^2cs^2\omega_6\omega_3^3+12\omega_4^2\omega_6\omega_3^2+30\omega_4^3v_2^2\omega_6^2\omega_3$$

$$C_{48}=-\omega_6^2\omega_3^3-60v_2^2\omega_6\omega_3+30cs^2\omega_3^3+11\omega_6^2\omega_3^2+12v_2^2\omega_6^2+18cs^2\omega_6^2\omega_3-60cs^2\omega_3^2-6\omega_3^3-6v_2^2\omega_6\omega_3^3-12\omega_6^2\omega_3-26cs^2\omega_6^2\omega_3^2+12\omega_3^2+4cs^2\omega_6^2\omega_3^3+48v_2^2\omega_6\omega_3^2-30cs^2\omega_6\omega_3^3-14v_2^2\omega_6^2\omega_3^2+v_2^2\omega_6^2\omega_3^3+96cs^2\omega_6\omega_3^2+24\omega_6\omega_3-36cs^2\omega_6\omega_3-36\omega_6\omega_3^2+12v_2^2\omega_3^2+9\omega_6\omega_3^3+12v_2^2\omega_6^2\omega_3-6v_2^2\omega_3^3$$

$$C_{49}=-2\omega_7^2\omega_4^3cs^2\omega_2+30\omega_7\omega_4^2v_3^2\omega_2+12\omega_4^2cs^2\omega_2-6\omega_7\omega_4^3cs^2-12\omega_4^2v_3^2\omega_2-30\omega_7\omega_4^2cs^2\omega_2+\omega_7^2\omega_4^3v_3^2\omega_2+6\omega_7\omega_4^3v_3^2-36\omega_7^2\omega_4v_3^2\omega_2+12\omega_7^2\omega_4v_3^2+12\omega_7^2\omega_4cs^2-12\omega_7\omega_4^2v_3^2-30\omega_7^2\omega_4cs^2\omega_2+12\omega_7\omega_4^2cs^2+8\omega_7^2\omega_4^2v_3^2\omega_2+6\omega_4^3v_3^2\omega_2+9\omega_7\omega_4^3cs^2\omega_2-9\omega_7\omega_4^3v_3^2\omega_2-6\omega_4^3cs^2\omega_2-6\omega_7^2\omega_4^2v_3^2+22\omega_7^2\omega_4^2cs^2\omega_2-18\omega_7^2\omega_4^2cs^2+24\omega_7^2v_3^2\omega_2-12\omega_7\omega_4v_3^2\omega_2+12\omega_7\omega_4cs^2\omega_2+3\omega_7^2\omega_4^3cs^2-\omega_7^2\omega_4^3v_3^2+12\omega_7^2cs^2\omega_2$$

$$C_{50}=2\omega_7\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2-2\omega_7\omega_4^2cs^4\omega_5^2\omega_2^3-2\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2+4\omega_7\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^2-4\omega_4^2cs^2v_1^2\omega_5^2\omega_2^3+10\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2+4\omega_7\omega_4v_3^2v_1^2\omega_5^2\omega_2^3-12\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^2-3\omega_7\omega_4^3cs^2v_1^2\omega_5^2\omega_2^3+12\omega_7^2\omega_4^2v_3^2v_1^2\omega_5^2\omega_2-10\omega_7\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^2+4\omega_7^2\omega_4^3v_3^2v_1^2\omega_5\omega_2+4\omega_7\omega_4^2cs^4\omega_5^2\omega_2^2-\omega_7\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2+4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^3-2\omega_4^3v_3^2v_1^2\omega_5^2\omega_2^3+2\omega_7\omega_4^3cs^2v_1^2\omega_5^2\omega_2^2+14\omega_7^2\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^2-2\omega_7\omega_4^3cs^4\omega_5^2\omega_2^2-4\omega_7^2\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^2+\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2+2\omega_7^2\omega_4^3cs^2v_1^2\omega_5\omega_2^3-\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^3-10\omega_7^2\omega_4^3v_3^2v_1^2\omega_5\omega_2^2+12\omega_7^2\omega_4v_3^2v_1^2\omega_5^2\omega_2^2-4\omega_7^2\omega_4^2cs^2v_3^2\omega_5\omega_2^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_2^2-2\omega_7^2\omega_4^3cs^2v_1^2\omega_5^2\omega_2^2-4\omega_7^2\omega_4^2cs^2v_1^2\omega_5\omega_2^2-8\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2\omega_2^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_5^2+4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2+\omega_7\omega_4^3cs^4\omega_5^2\omega_2^3-28\omega_7^2\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^2+\omega_7^2\omega_4^3cs^2v_1^2\omega_5^2\omega_2^3+2\omega_7^2\omega_4^3cs^2v_3^2\omega_2^3+2\omega_7^2\omega_4^2cs^2v_3^2\omega_5\omega_2^3-14\omega_7^2\omega_4v_3^2v_1^2\omega_5^2\omega_2^3+4\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^2+3\omega_7^2\omega_4^3v_3^2v_1^2\omega_5\omega_2^3+8\omega_7^2\omega_4^2cs^2v_1^2\omega_5^2\omega_2^2+10\omega_7^2\omega_4^3cs^2v_3^2\omega_5\omega_2^2+4\omega_7^2\omega_4cs^4\omega_5^2\omega_2^2+4\omega_7^2\omega_4^2v_3^2v_1^2\omega_5\omega_2^2+4\omega_7^2\omega_4^3v_3^2v_1^2\omega_5^2-\omega_7^2\omega_4^3cs^2v_1^2\omega_5\omega_2^3-2\omega_7^2\omega_4^2cs^2v_3^2\omega_5^2\omega_2^3+10\omega_7^2\omega_4cs^2v_1^2\omega_5^2\omega_2^2-2\omega_7^2\omega_4^3v_3^2v_1^2\omega_2^3-3\omega_7^2\omega_4^3v_3^2v_1^2\omega_5^2\omega_2^3-2\omega_7^2\omega_4^3cs^4\omega_5\omega_2^2-2\omega_7^2\omega_4^2v_3^2v_1^2\omega_5\omega_2^3-2\omega_7^2\omega_4cs^4\omega_5^2\omega_2^3-4\omega_7^2cs^2v_1^2\omega_5^2\omega_2^3-3\omega_7^2\omega_4^3cs^2v_3^2\omega_5\omega_2^3-8\omega_7^2\omega_4^2cs^2v_1^2\omega_5^2\omega_2^2+14\omega_7^2\omega_4^3v_3^2v_1^2\omega_5^2\omega_2^2+\omega_7^2\omega_4^3cs^4\omega_5\omega_2^3+4\omega_7^2\omega_4^3v_3^2v_1^2\omega_2^2-4\omega_7^2\omega_4cs^2v_1^2\omega_5^2\omega_2^2+8\omega_7^2\omega_4^2cs^2v_3^2\omega_5^2\omega_2^2+2\omega_7^2\omega_4^3cs^2v_1^2\omega_5\omega_2^2-14\omega_7^2\omega_4^3v_3^2v_1^2\omega_5^2\omega_2-4\omega_7^2\omega_4^2cs^2v_3^2\omega_5^2\omega_2+10\omega_7\omega_4^2cs^2v_1^2\omega_5^2\omega_2^3-2\omega_7\omega_4^3v_3^2v_1^2\omega_5^2\omega_2^2+2\omega_4^3cs^2v_1^2\omega_5^2\omega_2^3-4\omega_7\omega_4^2cs^2v_3^2\omega_5^2\omega_2^2-2\omega_7^2\omega_4^2cs^4\omega_5\omega_2^3+4\omega_4^2v_3^2v_1^2\omega_5^2\omega_2^3-4\omega_7\omega_4^2cs^2v_1^2\omega_5^2\omega_2^2+2\omega_7\omega_4^2cs^2v_3^2\omega_5^2\omega_2^3+4\omega_7^2\omega_4^2cs^4\omega_5\omega_2^2-4\omega_7^2\omega_4^3cs^2v_3^2\omega_5\omega_2+3\omega_7\omega_4^3v_3^2v_1^2\omega_5^2\omega_2^3-4\omega_7\omega_4cs^2v_1^2\omega_5^2\omega_2^3$$

$$C_{51}=6\omega_7^2\omega_4^3cs^2\omega_2-18\omega_7^2\omega_4v_3^2\omega_2^3+24\omega_7^2\omega_4cs^2\omega_2^3+24\omega_7^2\omega_4v_3^2\omega_2^3-30\omega_7^2\omega_4^3v_3^2\omega_2-12\omega_4^2cs^2\omega_2^3-24\omega_7\omega_4^2v_3^2\omega_2^3+22\omega_7^2\omega_4^3v_3^2\omega_2^2+\omega_7^2\omega_4^3cs^2\omega_2^3-4\omega_7^2\omega_4^3v_3^2\omega_2^3-6\omega_7^2\omega_4^3cs^2\omega_2^2+24\omega_7\omega_4^2cs^2\omega_2^3+12\omega_4^2v_3^2\omega_2^3+12\omega_7\omega_4v_3^2\omega_2^3+24\omega_7^2\omega_4^2v_3^2\omega_2-12\omega_7^2cs^2\omega_2^3-12\omega_7^2\omega_4^2cs^2\omega_2-12\omega_7\omega_4cs^2\omega_2^3-6\omega_7\omega_4^3cs^2\omega_2^3+12\omega_7^2\omega_4^2cs^2\omega_2^2-6\omega_4^3v_3^2\omega_2^3+22\omega_7^2\omega_4^2v_3^2\omega_2^3-14\omega_7^2\omega_4^2cs^2\omega_2^3+12\omega_7^2\omega_4^3v_3^2+6\omega_4^3cs^2\omega_2^2-48\omega_7^2\omega_4^2v_3^2\omega_2^2+6\omega_7\omega_4^3v_3^2\omega_2^3$$

$$C_{52}=12\omega_4^2cs^2\omega_5^2\omega_2^2-4\omega_4^3v_1^2\omega_5^2\omega_2^3+12v_1^2\omega_5^2\omega_2^3+24\omega_4^3cs^2\omega_5^2\omega_2+22\omega_4^3v_1^2\omega_5^2\omega_2^2-6\omega_4^2cs^2\omega_5^2\omega_2^3+24\omega_4^2v_1^2\omega_5^2\omega_2+\omega_4^3cs^2\omega_5^2\omega_2^3-48\omega_4^2v_1^2\omega_5^2\omega_2^2-6\omega_4^3v_1^2\omega_2^3-18\omega_4^3v_1^2\omega_5^2\omega_2+22\omega_4^2v_1^2\omega_5^2\omega_2^3-14\omega_4^3cs^2\omega_5^2\omega_2^2+12\omega_4^3v_1^2\omega_2^2+24\omega_4^3cs^2\omega_5\omega_2^2-12\omega_4cs^2\omega_5^2\omega_2^2-6\omega_4^3cs^2\omega_5\omega_2^3+12\omega_4^3v_1^2\omega_5\omega_2+6\omega_4cs^2\omega_5^2\omega_2^3-24\omega_4^3v_1^2\omega_5\omega_2^2+24\omega_4v_1^2\omega_5^2\omega_2^2-12\omega_4^3cs^2\omega_2^2-12\omega_4^3cs^2\omega_5^2+6\omega_4^3v_1^2\omega_5\omega_2^3+6\omega_4^3cs^2\omega_2^3-12\omega_4^3cs^2\omega_5\omega_2-30\omega_4v_1^2\omega_5^2\omega_2^3$$

$$C_{53}=-30\omega_7^2\omega_4cs^2\omega_3-6\omega_7\omega_4^3cs^2-36\omega_7^2\omega_4v_3^2\omega_3+6\omega_7\omega_4^3v_3^2-12\omega_4^2v_3^2\omega_3-30\omega_7\omega_4^2cs^2\omega_3+12\omega_7^2\omega_4v_3^2+12\omega_7^2\omega_4cs^2+\omega_7^2\omega_4^3v_3^2\omega_3-2\omega_7^2\omega_4^3cs^2\omega_3-12\omega_7\omega_4^2v_3^2+30\omega_7\omega_4^2v_3^2\omega_3+12\omega_7\omega_4^2cs^2+12\omega_4^2cs^2\omega_3+12\omega_7\omega_4cs^2\omega_3+12\omega_7^2cs^2\omega_3-6\omega_7^2\omega_4^2v_3^2+24\omega_7^2v_3^2\omega_3-18\omega_7^2\omega_4^2cs^2-12\omega_7\omega_4v_3^2\omega_3-9\omega_7\omega_4^3v_3^2\omega_3-6\omega_4^3cs^2\omega_3+22\omega_7^2\omega_4^2cs^2\omega_3+8\omega_7^2\omega_4^2v_3^2\omega_3+3\omega_7^2\omega_4^3cs^2-\omega_7^2\omega_4^3v_3^2+6\omega_4^3v_3^2\omega_3+9\omega_7\omega_4^3cs^2\omega_3$$

$$C_{54}=-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_3^3+7\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^2+6\omega_7\omega_4^2cs^2\omega_2^3\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3+\omega_4^3cs^2\omega_2^3\omega_3^3+2\omega_4^2v_3^2\omega_2^3\omega_3^3-10\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4^2cs^2\omega_2^3\omega_3^3+2\omega_7\omega_4^3v_3^2\omega_2^3\omega_3^3+4\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3+2\omega_7\omega_4^2v_3^2\omega_2^3\omega_3^3-2\omega_7\omega_4^2cs^2\omega_2^3\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3-2\omega_7^2\omega_4^3v_3^2\omega_2^3\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^2+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3-\omega_7\omega_4^3v_3^2\omega_2^2\omega_3^3-6\omega_7^2\omega_4^2cs^2\omega_3^2\omega_3^3+4\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3+8\omega_7^2\omega_4^2v_3^2\omega_2^3\omega_3^3+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3-\omega_7\omega_4^3v_3^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^2+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3+2\omega_7\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_4^2cs^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3-2\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3-10\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^3-6\omega_7\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^2+7\omega_7^2\omega_4^3v_3^2\omega_2^2\omega_3^2-\omega_4^3v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4cs^2\omega_2^3\omega_3^3+3\omega_7^2\omega_4^2v_3^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2\omega_3^3-8\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^3-2\omega_7\omega_4cs^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4cs^2\omega_2^3\omega_3^3-2\omega_7^2cs^2\omega_2^3\omega_3^3+3\omega_7^2\omega_4^3v_3^2\omega_2\omega_3^2+2\omega_7^2v_3^2\omega_2^3\omega_3^3-7\omega_7^2\omega_4v_3^2\omega_2^3\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2\omega_3^3+2\omega_7\omega_4v_3^2\omega_2^3\omega_3^3-2\omega_7^2\omega_4cs^2\omega_2^2\omega_3^3+3\omega_7^2\omega_4^2v_3^2\omega_2\omega_3^3$$

$$C_{55} = -5\omega_7^2\omega_4^3v_3^2\omega_3^3 + 24\omega_7\omega_4^2v_3^2\omega_3^3 + 36\omega_7\omega_4^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^2 + 12\omega_4^2v_3^2\omega_3^3 - 12\omega_4^2cs^2\omega_3^3 + 24\omega_7^2\omega_4^3v_3^2\omega_3^2 - 36\omega_7\omega_4^2v_3^2\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^2 + 4\omega_7^2\omega_4^3cs^2\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 - 30\omega_7^2\omega_4^3v_3^2\omega_3 + 6\omega_7^2\omega_4^3cs^2\omega_3 - 24\omega_7^2\omega_4cs^2\omega_3^2 - 6\omega_7^2\omega_4v_3^2\omega_3^3 - 32\omega_7^2\omega_4^2cs^2\omega_3^3 + 12\omega_7\omega_4^3cs^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^3 + 12\omega_7\omega_4^3v_3^2\omega_3^3 - 36\omega_7^2\omega_4^2v_3^2\omega_3^2 + 48\omega_7^2\omega_4^2cs^2\omega_3^2 - 12\omega_7\omega_4^3cs^2\omega_3^2 - 6\omega_4^3v_3^2\omega_3^3 - 12\omega_7\omega_4^3v_3^2\omega_3^2 + 16\omega_7^2\omega_4^2v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 12\omega_7\omega_4cs^2\omega_3^3 + 12\omega_7\omega_4v_3^2\omega_3^3 + 24\omega_7^2\omega_4^2v_3^2\omega_3 + 12\omega_7^2\omega_4^3v_3^2$$

$$C_{56} = 6\omega_7^2\omega_4^3cs^2\omega_2 - 24\omega_7^2\omega_4cs^2\omega_2^2 - 6\omega_7^2\omega_4v_3^2\omega_2^3 + 36\omega_7^2\omega_4cs^2\omega_2^3 - 30\omega_7^2\omega_4^3v_3^2\omega_2 - 12\omega_4^2cs^2\omega_2^3 - 36\omega_7\omega_4^2v_3^2\omega_2^3 + 24\omega_7^2\omega_4^3v_3^2\omega_2^2 + 4\omega_7^2\omega_4^3cs^2\omega_2^3 - 24\omega_7\omega_4^2cs^2\omega_2^2 + 24\omega_7\omega_4^2v_3^2\omega_2^2 - 5\omega_7^2\omega_4^3v_3^2\omega_2^3 - 12\omega_7^2\omega_4^3cs^2\omega_2^2 + 36\omega_7\omega_4^2cs^2\omega_2^3 + 12\omega_4^2v_3^2\omega_2^3 + 12\omega_7\omega_4v_3^2\omega_2^3 + 24\omega_7^2\omega_4^2v_3^2\omega_2 - 12\omega_7^2cs^2\omega_2^3 - 12\omega_7^2\omega_4^2cs^2\omega_2 - 12\omega_7\omega_4cs^2\omega_2^3 - 12\omega_7\omega_4^3cs^2\omega_2^3 + 48\omega_7^2\omega_4^2cs^2\omega_2^2 - 6\omega_4^3v_3^2\omega_2^3 + 16\omega_7^2\omega_4^2v_3^2\omega_2^3 - 12\omega_7\omega_4^3v_3^2\omega_2^2 + 12\omega_7\omega_4^3cs^2\omega_2^2 - 32\omega_7^2\omega_4^2cs^2\omega_2^3 + 12\omega_7^2\omega_4^3v_3^2 + 6\omega_4^3cs^2\omega_2^3 - 36\omega_7^2\omega_4^2v_3^2\omega_2^2 + 12\omega_7\omega_4^3v_3^2\omega_2^3$$

$$C_{57} = -30\omega_4^2\omega_2^2\omega_3^3 + 6\omega_4^2\omega_2^3\omega_3 + 12\omega_4^2\omega_2^2\omega_3^2 + 28\omega_4^2\omega_2^3\omega_3^3 - 30\omega_4^3\omega_2\omega_3^3 + 12\omega_2^3\omega_3^3 + 18\omega_4^3\omega_2\omega_3^2 - 30\omega_4^2\omega_2^2\omega_3^2 + 12\omega_4^3\omega_2^3 - 42\omega_4^3\omega_2^2\omega_3^2 - 36\omega_4\omega_2^3\omega_3^3 + 18\omega_4\omega_2^3\omega_3^2 - 30\omega_4^3\omega_2^3\omega_3 + 24\omega_4^3\omega_2^2\omega_3^3 + 18\omega_4\omega_2^2\omega_3^3 + 24\omega_4^3\omega_2^3\omega_3^2 + 18\omega_4^3\omega_2^2\omega_3 + 12\omega_4^3\omega_3^3 - 5\omega_4^3\omega_2^3\omega_3^3 + 6\omega_4^2\omega_2\omega_3^3$$

$$C_{58} = 4\omega_7\omega_4^2cs^4\omega_6^2\omega_3^2 - 8\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3 - \omega_7\omega_4^3cs^2v_2^3\omega_6^2\omega_3^3 - 2\omega_7^2\omega_4^2v_3^2v_2^2\omega_6\omega_3^3 - 4\omega_7^2cs^2v_2^2\omega_6^2\omega_3^3 + 2\omega_7^2\omega_4^3cs^2v_2^3\omega_3^3 + 2\omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^2 + 4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^3 - 4\omega_7^2\omega_4cs^2v_2^3\omega_6^2\omega_3^2 + 14\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2 + 4\omega_7^2\omega_4^2v_3^2v_2^2\omega_6\omega_3^2 + 2\omega_7\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2 + 8\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2 - 2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3 - 2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3 - 3\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2 + 10\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3 + 10\omega_7^2\omega_4cs^2v_2^2\omega_6^2\omega_3^2 - 12\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2 - 4\omega_7^2\omega_4^3cs^2v_3^2\omega_3^2 - \omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^3 - 8\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^2 + 4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3 + \omega_7\omega_4^3cs^4\omega_6^2\omega_3^3 - 4\omega_7\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2 + 4\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3 + 2\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3 - 4\omega_7\omega_4cs^2v_2^2\omega_6^2\omega_3^3 + 3\omega_7\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^3 + 4\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^2 + 10\omega_7\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3 + 4\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2 - 2\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3 + \omega_7^2\omega_4^3cs^2v_3^2\omega_6^2\omega_3^3 - 14\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3 - \omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3 + 2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3 - 2\omega_7\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2 - 4\omega_7^2\omega_4^2cs^2v_3^2\omega_6\omega_3^3 - 2\omega_7^2\omega_4cs^4\omega_6^2\omega_3^3 + 4\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3 - 3\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^3 - 10\omega_7\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3 + \omega_7^2\omega_4^3cs^4\omega_6\omega_3^3 + 2\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^2 - 2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^3 + 4\omega_7^2\omega_4^3v_3^2v_2^2\omega_3^3 + 8\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3^2 - 4\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3 + 4\omega_7\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^2 + 10\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3^2 + 4\omega_7^2\omega_4cs^4\omega_6^2\omega_3^2 + 12\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3 - 2\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3^3 - 2\omega_7^2\omega_4^3v_3^2v_2^2\omega_3^3 - 3\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3 - 2\omega_7^2\omega_4^3cs^4\omega_6\omega_3^2 + 4\omega_7\omega_4v_3^2v_2^2\omega_6^2\omega_3^3 - 4\omega_7^2\omega_4^3cs^2v_3^2\omega_6^2 - 28\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^2 - 4\omega_7^2\omega_4^2cs^2v_2^2\omega_6\omega_3^2 + 4\omega_7^2\omega_4^2cs^4\omega_6\omega_3^2 + 2\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^3 - 4\omega_7^2\omega_4^3cs^2v_3^2\omega_6\omega_3 + 3\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3 - 14\omega_7^2\omega_4^3v_3^2v_2^2\omega_6^2\omega_3^2 + \omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3 + 4\omega_7^2v_3^2v_2^2\omega_6^2\omega_3^3 + 2\omega_7^2\omega_4^2cs^2v_2^2\omega_6\omega_3^3 - 4\omega_7^2\omega_4^2cs^2v_3^2\omega_6^2\omega_3 + 14\omega_7^2\omega_4^2v_3^2v_2^2\omega_6^2\omega_3^3 - 2\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^2 + 12\omega_7^2\omega_4v_3^2v_2^2\omega_6^2\omega_3^2 - 10\omega_7^2\omega_4^3v_3^2v_2^2\omega_6\omega_3^3 - 2\omega_7^2\omega_4^2cs^4\omega_6\omega_3^3 - 4\omega_7\omega_4^2cs^2v_3^2\omega_6^2\omega_3^2$$

$$C_{59} = -4\omega_7^2\omega_4^3v_3^2\omega_3^3 + 24\omega_7\omega_4^2cs^2\omega_3^3 - 6\omega_7^2\omega_4^3cs^2\omega_3^2 + 12\omega_4^2v_3^2\omega_3^3 - 12\omega_4^2cs^2\omega_3^3 + 22\omega_7^2\omega_4^3v_3^2\omega_3^2 - 24\omega_7\omega_4^2v_3^2\omega_3^3 + \omega_7^2\omega_4^3cs^2\omega_3^3 + 24\omega_7^2\omega_4cs^2\omega_3^3 + 24\omega_7^2\omega_4v_3^2\omega_3^3 - 30\omega_7^2\omega_4^3v_3^2\omega_3 + 6\omega_7^2\omega_4^3cs^2\omega_3 - 18\omega_7^2\omega_4v_3^2\omega_3^3 - 14\omega_7^2\omega_4^2cs^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^3 + 6\omega_7\omega_4^3v_3^2\omega_3^3 - 48\omega_7^2\omega_4^2v_3^2\omega_3^2 + 12\omega_7^2\omega_4^2cs^2\omega_3^2 - 6\omega_7\omega_4^3cs^2\omega_3^3 - 6\omega_4^3v_3^2\omega_3^3 + 22\omega_7^2\omega_4^2v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 12\omega_7\omega_4cs^2\omega_3^3 + 12\omega_7\omega_4v_3^2\omega_3^3 + 24\omega_7^2\omega_4^2v_3^2\omega_3 + 12\omega_7^2\omega_4^3v_3^2$$

$$C_{60} = -6\omega_4^2cs^2\omega_6^2\omega_3^3 + 12\omega_4^3v_2^2\omega_6\omega_3 + 12\omega_4^2cs^2\omega_6^2\omega_3^2 + 24\omega_4^3cs^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_6^2 + 6\omega_4^3v_2^2\omega_6\omega_3^3 - 14\omega_4^3cs^2\omega_6^2\omega_3^2 - 30\omega_4v_2^2\omega_6^2\omega_3^3 + 12\omega_4^3v_2^2\omega_3^2 + \omega_4^3cs^2\omega_6^2\omega_3^3 - 24\omega_4^3v_2^2\omega_6\omega_3^2 - 6\omega_4^3v_2^2\omega_3^3 + 24\omega_4v_2^2\omega_6^2\omega_3^2 - 6\omega_4^3cs^2\omega_6\omega_3^3 + 22\omega_4^3v_2^2\omega_6^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^3 + 6\omega_4cs^2\omega_6^2\omega_3^3 + 24\omega_4^2v_2^2\omega_6^2\omega_3 - 4\omega_4^3v_2^2\omega_6^2\omega_3^3 + 24\omega_4^3cs^2\omega_6\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 - 12\omega_4cs^2\omega_6^2\omega_3^2 - 12\omega_4^3cs^2\omega_3^2 + 22\omega_4^2v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3cs^2\omega_6\omega_3 - 48\omega_4^2v_2^2\omega_6^2\omega_3^2 - 18\omega_4^3v_2^2\omega_6^2\omega_3$$

$$C_{61} = -36\omega_7^2v_3^2 + 24\omega_7^2cs^2 + 9\omega_7\omega_4^3cs^2 - 18\omega_4^3v_3^2 + 12\omega_7^2\omega_4 - 6\omega_4^3cs^2 + 27\omega_7\omega_4^3v_3^2 - 11\omega_7^2\omega_4^2 + 18\omega_7^2\omega_4v_3^2 - 48\omega_7^2\omega_4cs^2 + 12\omega_4^2cs^2 - 108\omega_7\omega_4^2v_3^2 + \omega_7^2\omega_4^3 - 36\omega_7\omega_4^2cs^2 + 36\omega_4^2v_3^2 + 72\omega_7\omega_4v_3^2 - 9\omega_7\omega_4^3 + 24\omega_7\omega_4cs^2 + 36\omega_7\omega_4^2 + 15\omega_7^2\omega_4^2v_3^2 + 25\omega_7^2\omega_4^2cs^2 - 12\omega_4^2 - 24\omega_7\omega_4 + 6\omega_4^3 - 2\omega_7^2\omega_4^3cs^2 - 3\omega_7^2\omega_4^3v_3^2$$

$$C_{62} = 6\omega_7^2\omega_4^3cs^2\omega_2 - 12\omega_7^2\omega_4cs^2\omega_2^2 + 7\omega_7^2\omega_4^2\omega_2^3 + 12\omega_7^2\omega_4v_3^2\omega_2^3 - 3\omega_7^2\omega_4^2\omega_2^2 + 12\omega_7\omega_4\omega_2^3 + 36\omega_7^2\omega_4cs^2\omega_2^3 - 12\omega_7^2\omega_4^3v_3^2\omega_2 - 36\omega_4^2cs^2\omega_2^3 + 12\omega_7\omega_4^2v_3^2\omega_2^3 + 6\omega_7^2\omega_4^3v_3^2\omega_2^2 - \omega_7^2\omega_4^3\omega_2^2 + 6\omega_7^2\omega_4^3cs^2\omega_2^3 - 24\omega_7\omega_4^2cs^2\omega_2^2 - 12\omega_7^2\omega_4^3cs^2\omega_2^2 + 72\omega_7\omega_4^2cs^2\omega_2^3 + 12\omega_4^2v_3^2\omega_2^3 + \omega_7^2\omega_4^3\omega_2^2 - 3\omega_4^3\omega_2^3 - 24\omega_7\omega_4v_3^2\omega_2^3 + 6\omega_7^2\omega_4^2v_3^2\omega_2 + 6\omega_7\omega_4^3\omega_2^3 - 12\omega_7^2cs^2\omega_2^3 - 12\omega_7^2\omega_4^2cs^2\omega_2 - 3\omega_7\omega_4^3\omega_2^2 - 24\omega_7\omega_4cs^2\omega_2^3 - 21\omega_7\omega_4^2\omega_2^3 - 24\omega_7\omega_4^3cs^2\omega_2^2 + 36\omega_7^2\omega_4^2cs^2\omega_2^2 - 6\omega_4^3v_3^2\omega_2^3 - 6\omega_7^2\omega_4^2v_3^2\omega_2^2 + 6\omega_4^2\omega_2^3 + 12\omega_7\omega_4^3cs^2\omega_2^2 - 6\omega_7^2\omega_4\omega_2^3 - 36\omega_7^2\omega_4^2cs^2\omega_2^3 + 6\omega_7\omega_4^2\omega_2^2 + 6\omega_7^2\omega_4^3v_3^2 + 18\omega_4^3cs^2\omega_2^3 - 6\omega_7^2\omega_4^2v_3^2\omega_2^2$$

$$C_{63} = 12\omega_7^2v_3^2 - 30\omega_7\omega_4^3cs^2 - 6\omega_4^3v_3^2 - 12\omega_7^2\omega_4 + 30\omega_4^3cs^2 - 6\omega_7\omega_4^3v_3^2 + 11\omega_7^2\omega_4^2 + 12\omega_7^2\omega_4v_3^2 + 18\omega_7^2\omega_4cs^2 - 60\omega_4^2cs^2 + 48\omega_7\omega_4^2v_3^2 - \omega_7^2\omega_4^3 + 96\omega_7\omega_4^2cs^2 + 12\omega_4^2v_3^2 - 60\omega_7\omega_4v_3^2 + 9\omega_7\omega_4^3 - 36\omega_7\omega_4cs^2 - 36\omega_7\omega_4^2 - 14\omega_7^2\omega_4^2v_3^2 - 26\omega_7^2\omega_4^2cs^2 + 12\omega_4^2 + 24\omega_7\omega_4 - 6\omega_4^3 + 4\omega_7^2\omega_4^3cs^2 + \omega_7^2\omega_4^3v_3^2$$

$$C_{64} = 6\omega_7^2\omega_4^3cs^2\omega_2 - 24\omega_7^2\omega_4cs^2\omega_2^2 + 3\omega_7^2\omega_4^2\omega_2^3 + 30\omega_7^2\omega_4v_3^2\omega_2^3 - 6\omega_7^2\omega_4^2\omega_2^2 + 36\omega_7^2\omega_4cs^2\omega_2^3 - 18\omega_7^2\omega_4^3v_3^2\omega_2 - 12\omega_4^2cs^2\omega_2^3 - 12\omega_7\omega_4^2v_3^2\omega_2^3 - \omega_7^2\omega_4^3\omega_2^3 + 4\omega_7^2\omega_4^3cs^2\omega_2^3 - 24\omega_7^2\omega_4cs^2\omega_2^2 - 24\omega_7\omega_4^2v_3^2\omega_2^2 + 3\omega_7^2\omega_4^3v_3^2\omega_2^3 - 12\omega_7^2\omega_4^3cs^2\omega_2^2 + 36\omega_7\omega_4^2cs^2\omega_2^3 + 12\omega_4^2v_3^2\omega_2^3 + 2\omega_7^2\omega_4^3\omega_2^2 + 12\omega_7\omega_4v_3^2\omega_2^3 - 24\omega_7^2v_3^2\omega_2^3 + 3\omega_7\omega_4^3\omega_2^3 - 12\omega_7^2cs^2\omega_2^3 - 12\omega_7^2\omega_4^2cs^2\omega_2 - 6\omega_7\omega_4^3\omega_2^2 - 12\omega_7\omega_4cs^2\omega_2^3 - 6\omega_7\omega_4^2\omega_2^3 - 12\omega_7\omega_4^3cs^2\omega_2^2 + 48\omega_7^2\omega_4^2cs^2\omega_2^2 - 6\omega_4^3v_3^2\omega_2^3 - 12\omega_7^2\omega_4^2v_3^2\omega_2^2 + 12\omega_7\omega_4^3v_3^2\omega_2^2 + 12\omega_7\omega_4^3cs^2\omega_2^2 - 32\omega_7^2\omega_4^2cs^2\omega_2^2 + 12\omega_7\omega_4^2\omega_2^2 + 12\omega_7^2\omega_4^3v_3^2 + 6\omega_4^3cs^2\omega_2^2 + 12\omega_7^2\omega_4^2v_3^2\omega_2^2$$

$$C_{65} = 72\omega_7\omega_4^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^2 + \omega_7^2\omega_4^3\omega_3^2 + 12\omega_4^2v_3^2\omega_3^3 - 36\omega_4^2cs^2\omega_3^3 + 6\omega_7^2\omega_4^3v_3^2\omega_3^2 + 12\omega_7\omega_4^2v_3^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^2 + 6\omega_7^2\omega_4^3cs^2\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 + 12\omega_7\omega_4\omega_3^3 - 3\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^3v_3^2\omega_3 + 6\omega_7^2\omega_4^3cs^2\omega_3 + 7\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4cs^2\omega_3^3 + 12\omega_7^2\omega_4v_3^2\omega_3^3 + 6\omega_7\omega_4^2\omega_3^3 - 36\omega_7^2\omega_4^2cs^2\omega_3^3 - 6\omega_7^2\omega_4\omega_3^3 + 12\omega_7\omega_4^3cs^2\omega_3^2 + 18\omega_4^3cs^2\omega_3^3 - 6\omega_7^2\omega_4^2v_3^2\omega_3^2 + 36\omega_7^2\omega_4^2cs^2\omega_3^2 - 24\omega_7\omega_4^3cs^2\omega_3^3 - 21\omega_7\omega_4^2\omega_3^3 - 6\omega_4^3v_3^2\omega_3^3 - 6\omega_7^2\omega_4^2v_3^2\omega_3^3 + 6\omega_4^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 3\omega_7\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 24\omega_7\omega_4cs^2\omega_3^3 - 24\omega_7\omega_4v_3^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_7^2\omega_4^2v_3^2\omega_3 + 6\omega_7^2\omega_4^3v_3^2 + 6\omega_7\omega_4^3\omega_3^3$$

$$C_{66} = 12\omega_7^2v_3^2 - 30\omega_7\omega_4^3cs^2 - 6\omega_4^3v_3^2 - 12\omega_7^2\omega_4 + 30\omega_4^3cs^2 - 6\omega_7\omega_4^3v_3^2 + 11\omega_7^2\omega_4^2 + 12\omega_7^2\omega_4v_3^2 + 18\omega_7^2\omega_4cs^2 - 60\omega_4^2cs^2 + 48\omega_7\omega_4^2v_3^2 - \omega_7^2\omega_4^3 + 96\omega_7\omega_4^2cs^2 + 12\omega_4^2v_3^2 - 60\omega_7\omega_4v_3^2 + 9\omega_7\omega_4^3 - 36\omega_7\omega_4cs^2 - 36\omega_7\omega_4^2 - 14\omega_7^2\omega_4^2v_3^2 - 26\omega_7^2\omega_4^2cs^2 + 12\omega_4^2 + 24\omega_7\omega_4 - 6\omega_4^3 + 4\omega_7^2\omega_4^3cs^2 + \omega_7^2\omega_4^3v_3^2$$

$$C_{67} = 3\omega_7^2\omega_4^3v_3^2\omega_3^3 - 24\omega_7\omega_4^2v_3^2\omega_3^2 + 36\omega_7\omega_4^2cs^2\omega_3^3 - 12\omega_7^2\omega_4^3cs^2\omega_3^2 + 2\omega_7^2\omega_4^3\omega_3^2 + 12\omega_4^2v_3^2\omega_3^3 - 12\omega_4^2cs^2\omega_3^3 - 12\omega_7\omega_4^2v_3^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2cs^2\omega_3^2 + 4\omega_7^2\omega_4^3cs^2\omega_3^3 + 36\omega_7^2\omega_4cs^2\omega_3^3 - 6\omega_7^2\omega_4^2\omega_3^3 - 18\omega_7^2\omega_4^3v_3^2\omega_3 + 6\omega_7^2\omega_4^3cs^2\omega_3 + 3\omega_7^2\omega_4^2\omega_3^3 - 24\omega_7^2\omega_4cs^2\omega_3^3 + 30\omega_7^2\omega_4v_3^2\omega_3^3 + 12\omega_7\omega_4^2\omega_3^2 - 32\omega_7^2\omega_4^2cs^2\omega_3^3 + 12\omega_7\omega_4^3cs^2\omega_3^2 + 6\omega_4^3cs^2\omega_3^3 + 12\omega_7^2\omega_4^2v_3^2\omega_3^2 + 48\omega_7^2\omega_4^2cs^2\omega_3^2 - 12\omega_7\omega_4^3cs^2\omega_3^2 - 6\omega_7\omega_4^2\omega_3^3 - 6\omega_4^3v_3^2\omega_3^3 + 12\omega_7\omega_4^3v_3^2\omega_3^2 - 12\omega_7^2\omega_4^2v_3^2\omega_3^3 - 12\omega_7^2cs^2\omega_3^3 - 6\omega_7\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^2cs^2\omega_3 - 12\omega_7\omega_4cs^2\omega_3^3 + 12\omega_7\omega_4v_3^2\omega_3^3 + 12\omega_7^2\omega_4^3v_3^2 - 24\omega_7^2v_3^2\omega_3^3 + 3\omega_7\omega_4^3\omega_3^3$$

$$C_{68} = 72\omega_7\omega_4cs^2v_3^2 - 6\omega_7\omega_4^3cs^2 + 3\omega_7^2\omega_4^3v_3^4 - 36\omega_4^3v_3^2 - 3\omega_7^2\omega_4^3cs^4 + 30\omega_7\omega_4^3v_3^2 - 12\omega_7^2\omega_4^2cs^2v_3^2 + 24\omega_7\omega_4cs^4 + 12\omega_7^2\omega_4cs^2 + 108\omega_4^3cs^2v_3^2 - 72\omega_7\omega_4^3cs^2v_3^2 - 72\omega_7\omega_4^2v_3^2 + 24\omega_7^2\omega_4^2cs^4 - 12\omega_7^2\omega_4^2v_3^4 + 24\omega_7\omega_4^2cs^2 + 72\omega_4^2v_3^2 - 36\omega_7^2\omega_4cs^2v_3^2 - 48\omega_7^2\omega_4cs^4 - 24\omega_7\omega_4cs^2 - 24\omega_7\omega_4^2cs^4 + 12\omega_7^2\omega_4^2v_3^2 - 72\omega_4^2v_3^4 - 8\omega_7^2\omega_4^2cs^2 + 72\omega_7\omega_4^2v_3^4 + 24\omega_7^2cs^4 + 144\omega_7\omega_4^2cs^2v_3^2 - 216\omega_4^2cs^2v_3^2 - 30\omega_7\omega_4^3v_3^4 + \omega_7^2\omega_4^3cs^2 - 3\omega_7^2\omega_4^3v_3^2 + 6\omega_7\omega_4^3cs^4 + 36\omega_4^3v_3^4 + 6\omega_7^2\omega_4^3cs^2v_3^2$$

$C_{69} = -12\omega_7^2 v_3^2 + 24\omega_7^2 cs^2 - 24\omega_7\omega_4^3 cs^2 + 42\omega_4^3 v_3^2 + 6\omega_7^2\omega_4 + 30\omega_4^3 cs^2 - 24\omega_7\omega_4^3 v_3^2 + 2\omega_7^2\omega_4^2 - 12\omega_7^2\omega_4 v_3^2 - 30\omega_7^2\omega_4 cs^2 - 60\omega_4^2 cs^2 + 24\omega_7\omega_4^2 v_3^2 - \omega_7^2\omega_4^3 + 72\omega_7\omega_4^2 cs^2 - 84\omega_4^2 v_3^2 + 60\omega_7\omega_4 v_3^2 + 12\omega_7\omega_4^3 - 12\omega_7\omega_4 cs^2 - 24\omega_7\omega_4^2 + 2\omega_7^2\omega_4^2 v_3^2 - 2\omega_7^2\omega_4^2 cs^2 + 36\omega_4^2 - 12\omega_7\omega_4 - 18\omega_4^3 + \omega_7^2\omega_4^3 cs^2 + 2\omega_7^2\omega_4^3 v_3^2$

3 Comparison of SRT, MRT, and CLBM

3.1 Conservation of mass equation

$$\frac{\partial \rho}{\partial t} + v_1 \frac{\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_1} + \rho \frac{\delta_l}{\delta_t}\frac{\partial v_1}{\partial x_1} + v_2 \frac{\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_2} + \rho \frac{\delta_l}{\delta_t}\frac{\partial v_2}{\partial x_2} + v_3 \frac{\delta_l}{\delta_t}\frac{\partial \rho}{\partial x_3} + \rho \frac{\delta_l}{\delta_t}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1}\delta_l \frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial t} + C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_1}$$
$$+ C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1}\frac{\delta_l^2}{\delta_t}\left(\frac{\partial v_1}{\partial x_1}\right)^2 + C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_2} + C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_2}{\partial x_2} + C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2} +$$
$$C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_1}{\partial x_3} + C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_1}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_t v_2}\delta_l \frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t} +$$
$$C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_x v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1} + C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_x v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1} + C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2} + C^{(0)}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\left(\frac{\partial v_2}{\partial x_2}\right)^2 +$$
$$C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_z v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3} + C^{(0)}_{\mathrm{D}_y\rho,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_t v_3}\delta_l \frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t} +$$
$$C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_1}{\partial x_1} + C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_1} + C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_2}{\partial x_2} + C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_2} +$$
$$C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial x_3} + C^{(0)}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\left(\frac{\partial v_3}{\partial x_3}\right)^2 + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x v_1}\delta_l \frac{\partial^2 v_1}{\partial t \partial x_1} + C^{(0)}_{\mathrm{D}_x^2\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_1^2} + C^{(0)}_{\mathrm{D}_x^2 v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_1}{\partial x_1^2} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_y v_2}\delta_l \frac{\partial^2 v_2}{\partial t \partial x_2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_1}{\partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_2}{\partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_y^2\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_2^2} + C^{(0)}_{\mathrm{D}_y^2 v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_2}{\partial x_2^2}$$
$$+ C^{(0)}_{\mathrm{D}_t\mathrm{D}_z v_3}\delta_l \frac{\partial^2 v_3}{\partial t \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z v_1}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_1}{\partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_3}{\partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_y\mathrm{D}_z v_2}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_2}{\partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_3}{\partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_z^2\rho}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 \rho}{\partial x_3^2} + C^{(0)}_{\mathrm{D}_z^2 v_3}\frac{\delta_l^2}{\delta_t}\frac{\partial^2 v_3}{\partial x_3^2} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x v_1}\delta_l\delta_t \frac{\partial^3 v_1}{\partial t^2 \partial x_1} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2 v_1}\delta_l^2 \frac{\partial^3 v_1}{\partial t \partial x_1^2} + C^{(0)}_{\mathrm{D}_x^3\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1^3} + C^{(0)}_{\mathrm{D}_x^3 v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1^3} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y v_2}\delta_l\delta_t \frac{\partial^3 v_2}{\partial t^2 \partial x_2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1}\delta_l^2 \frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_2} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2}\delta_l^2 \frac{\partial^3 v_2}{\partial t \partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_1^2 \partial x_2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2 v_2}\delta_l^2 \frac{\partial^3 v_2}{\partial t \partial x_2^2} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1 \partial x_2^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2 v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1 \partial x_2^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2 v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_1 \partial x_2^2} + C^{(0)}_{\mathrm{D}_y^3\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_2^3} + C^{(0)}_{\mathrm{D}_y^3 v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_2^3} +$$
$$C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_z v_3}\delta_l\delta_t \frac{\partial^3 v_3}{\partial t^2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1}\delta_l^2 \frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3}\delta_l^2 \frac{\partial^3 v_3}{\partial t \partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1^2 \partial x_3} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1^2 \partial x_3}$$
$$+ C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_1^2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_2}\delta_l^2 \frac{\partial^3 v_2}{\partial t \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3}\delta_l^2 \frac{\partial^3 v_3}{\partial t \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1 \partial x_2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_1 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_1 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_2^2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_z^2 v_3}\delta_l^2 \frac{\partial^3 v_3}{\partial t \partial x_3^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_1 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2 v_1}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_1}{\partial x_1 \partial x_3^2} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2 v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_1 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2 v_2}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_2}{\partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2 v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_z^3\rho}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 \rho}{\partial x_3^3} +$$
$$C^{(0)}_{\mathrm{D}_z^3 v_3}\frac{\delta_l^3}{\delta_t}\frac{\partial^3 v_3}{\partial x_3^3} + C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_x v_1}\delta_l\delta_t^2 \frac{\partial^4 v_1}{\partial t^3 \partial x_1} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1}\delta_l^2\delta_t \frac{\partial^4 v_1}{\partial t^2 \partial x_1^2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^3 v_1}\delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1^3} + C^{(0)}_{\mathrm{D}_x^4\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1^4} + C^{(0)}_{\mathrm{D}_x^4 v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1^4}$$
$$+ C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_y v_2}\delta_l\delta_t^2 \frac{\partial^4 v_2}{\partial t^3 \partial x_2} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1}\delta_l^2\delta_t \frac{\partial^4 v_1}{\partial t^2 \partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2}\delta_l^2\delta_t \frac{\partial^4 v_2}{\partial t^2 \partial x_1 \partial x_2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1}\delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1^2 \partial x_2} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2}\delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_1^2 \partial x_2} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1^3 \partial x_2} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1^3 \partial x_2} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y v_2}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_2}{\partial x_1^3 \partial x_2} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}\delta_l^2\delta_t \frac{\partial^4 v_2}{\partial t^2 \partial x_2^2} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}\delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1 \partial x_2^2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_2}\delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_1 \partial x_2^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1^2 \partial x_2^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2 v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1^2 \partial x_2^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2 v_2}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_2}{\partial x_1^2 \partial x_2^2}$$
$$+ C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^3 v_2}\delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_2^3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1 \partial x_2^3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3 v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1 \partial x_2^3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3 v_2}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_2}{\partial x_1 \partial x_2^3} + C^{(0)}_{\mathrm{D}_y^4\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_2^4} +$$
$$C^{(0)}_{\mathrm{D}_y^4 v_2}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_2}{\partial x_2^4} + C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_z v_3}\delta_l\delta_t^2 \frac{\partial^4 v_3}{\partial t^3 \partial x_3} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1}\delta_l^2\delta_t \frac{\partial^4 v_1}{\partial t^2 \partial x_1 \partial x_3} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3}\delta_l^2\delta_t \frac{\partial^4 v_3}{\partial t^2 \partial x_1 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1}\delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1^2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3}\delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_1^2 \partial x_3} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1^3 \partial x_3} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1^3 \partial x_3} + C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z v_3}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_3}{\partial x_1^3 \partial x_3}$$
$$+ C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2}\delta_l^2\delta_t \frac{\partial^4 v_2}{\partial t^2 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3}\delta_l^2\delta_t \frac{\partial^4 v_3}{\partial t^2 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}\delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1 \partial x_2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}\delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_1 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}\delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_1 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 \rho}{\partial x_1^2 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1}\frac{\delta_l^4}{\delta_t}\frac{\partial^4 v_1}{\partial x_1^2 \partial x_2 \partial x_3}$$

$$+ C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_1^2 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_1^2 \partial x_2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} \delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} \delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_2^2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_1 \partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_1} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_1}{\partial x_1 \partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_1 \partial x_2^2 \partial x_3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_1 \partial x_2^2 \partial x_3} +$$
$$C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_2^3 \partial x_3} + C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_2^3 \partial x_3} + C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_2^3 \partial x_3} + C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} \delta_l^2 \delta_t \frac{\partial^4 v_3}{\partial t^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} \delta_l^3 \frac{\partial^4 v_1}{\partial t \partial x_1 \partial x_3^2} +$$
$$C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} \delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_1 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_1^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2 v_1} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_1}{\partial x_1^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_1^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2 v_2} \delta_l^3 \frac{\partial^4 v_2}{\partial t \partial x_2 \partial x_3^2}$$
$$+ C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2 v_3} \delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_1 \partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2 v_1} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_1}{\partial x_1 \partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2 v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_1 \partial x_2 \partial x_3^2} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_1 \partial x_2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_2^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2 v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_2^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_2^2 \partial x_3^2} + C^{(0)}_{\mathrm{D}_t\mathrm{D}_z^3 v_3} \delta_l^3 \frac{\partial^4 v_3}{\partial t \partial x_3^3} +$$
$$C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_1 \partial x_3^3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3 v_1} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_1}{\partial x_1 \partial x_3^3} + C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_1 \partial x_3^3} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_2 \partial x_3^3} + C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_2}{\partial x_2 \partial x_3^3} +$$
$$C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_2 \partial x_3^3} + C^{(0)}_{\mathrm{D}_z^4 \rho} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 \rho}{\partial x_3^4} + C^{(0)}_{\mathrm{D}_z^4 v_3} \frac{\delta_l^4}{\delta_t} \frac{\partial^4 v_3}{\partial x_3^4} = 0,$$

where:

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1}$ **at** $\frac{\partial \rho}{\partial x_1} \frac{\partial v_1}{\partial t}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1} = (-2+\omega)\frac{1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1} = (-2+\omega_2)\frac{1}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_t v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1}$ **at** $\frac{\partial \rho}{\partial x_1} \frac{\partial v_1}{\partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1} = (-2+\omega)\frac{v_1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1} = (-2+\omega_2)\frac{v_1}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1}$ **at** $\left(\frac{\partial v_1}{\partial x_1}\right)^2$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1} = (-2+\omega_2)\frac{\rho}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1}$ **at** $\frac{\partial \rho}{\partial x_1} \frac{\partial v_1}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1} = (2-\omega)\frac{v_2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1} = (2-\omega_3)\frac{v_2}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2}$ **at** $\frac{\partial\rho}{\partial x_1}\frac{\partial v_2}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2} = (2-\omega)\frac{v_1}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2} = (\omega_2+\omega_3-\omega_2\omega_3)\frac{v_1}{\omega_2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2}$ **at** $\frac{\partial v_1}{\partial x_1}\frac{\partial v_2}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2} = (2-\omega)\frac{\rho}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2} = (\omega_2+\omega_3-\omega_2\omega_3)\frac{\rho}{\omega_2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1}$ **at** $\frac{\partial\rho}{\partial x_1}\frac{\partial v_1}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1} = (2-\omega)\frac{v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1} = (2-\omega_4)\frac{v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3}$ **at** $\frac{\partial\rho}{\partial x_1}\frac{\partial v_3}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3} = (2-\omega)\frac{v_1}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3} = (\omega_4-\omega_4\omega_2+\omega_2)\frac{v_1}{\omega_4\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\rho,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3}$ **at** $\frac{\partial v_1}{\partial x_1}\frac{\partial v_3}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3} = (2-\omega)\frac{\rho}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3} = (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{\rho}{\omega_4\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x v_1,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial t}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2} = (-2+\omega)\frac{1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2} = (-2+\omega_3)\frac{1}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_t v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_1}{\partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1} = (2-\omega)\frac{v_2}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1} = (\omega_2 + \omega_3 - \omega_2\omega_3)\frac{v_2}{\omega_2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2} = (2-\omega)\frac{v_1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2} = (2-\omega_2)\frac{v_1}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_x v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2} = (-2+\omega)\frac{v_2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2} = (-2+\omega_3)\frac{v_2}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2}$ **at** $\left(\frac{\partial v_2}{\partial x_2}\right)^2$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2} = (-2+\omega_3)\frac{\rho}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_2}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2} = (2-\omega)\frac{v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2} = (2-\omega_4)\frac{v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3}$ **at** $\frac{\partial \rho}{\partial x_2}\frac{\partial v_3}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3} = (2-\omega)\frac{v_2}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3} = (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_2}{\omega_4\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y \rho,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3}$ **at** $\frac{\partial v_2}{\partial x_2}\frac{\partial v_3}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3} = (2-\omega)\frac{\rho}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3} = (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{\rho}{\omega_4\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y v_2,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3}$ **at** $\frac{\partial \rho}{\partial x_3}\frac{\partial v_3}{\partial t}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3} = (-2+\omega)\frac{1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3} = (-2+\omega_4)\frac{1}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z \rho,\mathrm{D}_t v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_t v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_t v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1}$ **at** $\frac{\partial\rho}{\partial x_3}\frac{\partial v_1}{\partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1} = (2-\omega)\frac{v_3}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1} = (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{v_3}{\omega_4\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3}$ **at** $\frac{\partial\rho}{\partial x_3}\frac{\partial v_3}{\partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3} = (2-\omega)\frac{v_1}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3} = (2-\omega_2)\frac{v_1}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_x v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2}$ **at** $\frac{\partial\rho}{\partial x_3}\frac{\partial v_2}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2} = (2-\omega)\frac{v_3}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2} = (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_3}{\omega_4\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3}$ **at** $\frac{\partial\rho}{\partial x_3}\frac{\partial v_3}{\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3} = (2-\omega)\frac{v_2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3} = (2-\omega_3)\frac{v_2}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_y v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3}$ **at** $\frac{\partial\rho}{\partial x_3}\frac{\partial v_3}{\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3} = (-2+\omega)\frac{v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3} = (-2+\omega_4)\frac{v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z\rho,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3}$ **at** $\left(\frac{\partial v_3}{\partial x_3}\right)^2$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3} = (-2+\omega_4)\frac{\rho}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z v_3,\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x v_1}$ **at** $\frac{\partial^2 v_1}{\partial t \partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x v_1} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x v_1} = (-2+\omega_2)\frac{\rho}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\rho}$ **at** $\frac{\partial^2 \rho}{\partial x_1^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\rho} = (-2+\omega)\frac{cs^2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\rho} = (-2+\omega_2)\frac{cs^2}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\rho} = (-2+\omega_2)\frac{cs^2}{2\omega_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\rho} = (-2+\omega_2)\frac{cs^2}{2\omega_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\rho} = (-2+\omega_2)\frac{cs^2}{2\omega_2}$

coefficient $C^{(0)}_{\mathrm{D}_x^2 v_1}$ **at** $\frac{\partial^2 v_1}{\partial x_1^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2 v_1} = (-2+\omega)\frac{v_1\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2 v_1} = (-2+\omega_2)\frac{v_1\rho}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2 v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2 v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2 v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y v_2}$ **at** $\frac{\partial^2 v_2}{\partial t \partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y v_2} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y v_2} = (-2+\omega_3)\frac{\rho}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\rho}$ **at** $\frac{\partial^2\rho}{\partial x_1\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\rho} = (2-\omega)\frac{v_1 v_2}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\rho} = (\omega_2+\omega_3-\omega_2\omega_3)\frac{v_1 v_2}{\omega_2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\rho}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\rho}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\rho}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y v_1}$ **at** $\frac{\partial^2 v_1}{\partial x_1\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y v_1} = (2-\omega)\frac{v_2\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_1} = (2-\omega_3)\frac{v_2\rho}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y v_2}$ **at** $\frac{\partial^2 v_2}{\partial x_1\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y v_2} = (2-\omega)\frac{v_1\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_2} = (2-\omega_2)\frac{v_1\rho}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\rho}$ **at** $\frac{\partial^2\rho}{\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\rho} = (-2+\omega)\frac{cs^2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\rho} = (-2+\omega_3)\frac{cs^2}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\rho} = (-2+\omega_3)\frac{cs^2}{2\omega_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\rho} = (-2+\omega_3)\frac{cs^2}{2\omega_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\rho} = (-2+\omega_3)\frac{cs^2}{2\omega_3}$

coefficient $C^{(0)}_{\mathrm{D}_y^2 v_2}$ **at** $\frac{\partial^2 v_2}{\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2 v_2} = (-2+\omega)\frac{v_2\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2 v_2} = (-2+\omega_3)\frac{v_2\rho}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2 v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_z v_3}$ **at** $\frac{\partial^2 v_3}{\partial t \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_z v_3} = (-2+\omega)\frac{\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z v_3} = (-2+\omega_4)\frac{\rho}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z \rho}$ **at** $\frac{\partial^2 \rho}{\partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z \rho} = (2-\omega)\frac{v_1 v_3}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z \rho} = (\omega_4 - \omega_4\omega_2 + \omega_2)\frac{v_1 v_3}{\omega_4\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z \rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z \rho}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z \rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z \rho}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z \rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z \rho}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z v_1}$ **at** $\frac{\partial^2 v_1}{\partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z v_1} = (2-\omega)\frac{\rho v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_1} = (2-\omega_4)\frac{\rho v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z v_3}$ **at** $\frac{\partial^2 v_3}{\partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z v_3} = (2-\omega)\frac{v_1\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_3} = (2-\omega_2)\frac{v_1\rho}{2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z\rho}$ **at** $\frac{\partial^2\rho}{\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z\rho} = (2-\omega)\frac{v_2 v_3}{\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z\rho} = (\omega_4 - \omega_4\omega_3 + \omega_3)\frac{v_2 v_3}{\omega_4\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z\rho}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z\rho}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z\rho}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z v_2}$ **at** $\frac{\partial^2 v_2}{\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z v_2} = (2-\omega)\frac{\rho v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_2} = (2-\omega_4)\frac{\rho v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z v_3}$ **at** $\frac{\partial^2 v_3}{\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z v_3} = (2-\omega)\frac{v_2\rho}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_3} = (2-\omega_3)\frac{v_2\rho}{2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^2\rho}{\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z^2\rho} = (-2+\omega)\frac{cs^2}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^2\rho} = (-2+\omega_4)\frac{cs^2}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z^2\rho} = (-2+\omega_4)\frac{cs^2}{2\omega_4}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z^2\rho} = (-2+\omega_4)\frac{cs^2}{2\omega_4}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z^2\rho} = (-2+\omega_4)\frac{cs^2}{2\omega_4}$

coefficient $C^{(0)}_{\mathrm{D}_z^2 v_3}$ **at** $\frac{\partial^2 v_3}{\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z^2 v_3} = (-2+\omega)\frac{\rho v_3}{2\omega}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^2 v_3} = (-2+\omega_4)\frac{\rho v_3}{2\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^2 v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x v_1}$ **at** $\frac{\partial^3 v_1}{\partial t^2 \partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x v_1} = (12-12\omega+\omega^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x v_1} = (12+\omega_2^2-12\omega_2)\frac{\rho}{12\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2 v_1}$ **at** $\frac{\partial^3 v_1}{\partial t \partial x_1^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1} = (12-12\omega+\omega^2)\frac{v_1\rho}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1} = (12+\omega_5\omega_2-6\omega_5-6\omega_2)\frac{v_1\rho}{6\omega_5\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1} = (12+\omega_2^2-12\omega_2)\frac{v_1\rho}{6\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2 v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x^3 \rho}$ **at** $\frac{\partial^3 \rho}{\partial x_1^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3 \rho} = (6-3\omega^2cs^2-\omega^2v_1^2-6v_1^2-18cs^2-6\omega+\omega^2+6\omega v_1^2+18\omega cs^2)\frac{v_1}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3 \rho} = (15\omega_5\omega_2cs^2+\omega_5\omega_2^2+3\omega_5v_1^2\omega_2-3\omega_5\omega_2+3\omega_2^2cs^2-\omega_5v_1^2\omega_2^2-3\omega_2^2-6v_1^2\omega_2+6\omega_2-6\omega_2cs^2+3v_1^2\omega_2^2-3\omega_5\omega_2^2cs^2-12\omega_5cs^2)\frac{v_1}{6\omega_5\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3 \rho} = (-3cs^2\omega_5\omega_2^2+\omega_5\omega_2^2+3\omega_5v_1^2\omega_2-3\omega_5\omega_2+15cs^2\omega_5\omega_2-\omega_5v_1^2\omega_2^2-3\omega_2^2-6cs^2\omega_2-6v_1^2\omega_2+6\omega_2-12cs^2\omega_5+3v_1^2\omega_2^2+3cs^2\omega_2^2)\frac{v_1}{6\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3 \rho} = (6+3\omega_5v_1^2-\omega_5v_1^2\omega_2+9\omega_5cs^2+\omega_5\omega_2-6v_1^2+9\omega_2cs^2-18cs^2-3\omega_5+3v_1^2\omega_2-3\omega_2-3\omega_5\omega_2cs^2)\frac{v_1}{6\omega_5\omega_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3 \rho} = (6+3\omega_5v_1^2-\omega_5v_1^2\omega_2-3\omega_5\omega_2cs^2+\omega_5\omega_2-6v_1^2-3\omega_5+3v_1^2\omega_2-3\omega_2+9\omega_2cs^2-18cs^2+9\omega_5cs^2)\frac{v_1}{6\omega_5\omega_2}$

coefficient $C^{(0)}_{\mathrm{D}_x^3 v_1}$ **at** $\frac{\partial^3 v_1}{\partial x_1^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3 v_1} = (12-3\omega^2cs^2-5\omega^2v_1^2-24v_1^2-24cs^2-12\omega+2\omega^2+24\omega v_1^2+24\omega cs^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3 v_1} =$
$(18\omega_5\omega_2cs^2-12\omega_5v_1^2+2\omega_5\omega_2^2+18\omega_5v_1^2\omega_2-6\omega_5\omega_2+6\omega_2^2cs^2-5\omega_5v_1^2\omega_2^2-6\omega_2^2-12v_1^2\omega_2+12\omega_2-12\omega_2cs^2+6v_1^2\omega_2^2-3\omega_5\omega_2^2cs^2-12\omega_5cs^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3 v_1} =$
$(-12\omega_5 v_1^2 - 3cs^2\omega_5\omega_2^2 + 2\omega_5\omega_2^2 + 18\omega_5 v_1^2\omega_2 - 6\omega_5\omega_2 + 18cs^2\omega_5\omega_2 - 5\omega_5 v_1^2\omega_2^2 - 6\omega_2^2 - 12cs^2\omega_2 - 12v_1^2\omega_2 + 12\omega_2 - 12cs^2\omega_5 + 6v_1^2\omega_2^2 + 6cs^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3 v_1} =$
$(12\omega_5 v_1^2 + 2\omega_5\omega_2^2 + 6\omega_5 v_1^2\omega_2 - 3\omega_5\omega_2^2 cs^2 - 12\omega_5 cs^2 - 6\omega_5\omega_2 - 5\omega_5 v_1^2\omega_2^2 - 6\omega_2^2 - 12\omega_2 cs^2 + 6\omega_2^2 cs^2 - 36v_1^2\omega_2 + 12\omega_2 + 18\omega_5\omega_2 cs^2 + 18v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3 v_1} =$
$(12\omega_5 v_1^2 + 2\omega_5\omega_2^2 + 6\omega_5 v_1^2\omega_2 + 18\omega_5\omega_2 cs^2 - 6\omega_5\omega_2 - 5\omega_5 v_1^2\omega_2^2 - 6\omega_2^2 + 6\omega_2^2 cs^2 - 36v_1^2\omega_2 + 12\omega_2 - 12\omega_2 cs^2 - 3\omega_5\omega_2^2 cs^2 - 12\omega_5 cs^2 + 18v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y v_2}$ **at** $\frac{\partial^3 v_2}{\partial t^2\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_y v_2} = (12 - 12\omega + \omega^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y v_2} = (12 + \omega_3^2 - 12\omega_3)\frac{\rho}{12\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1}$ **at** $\frac{\partial^3 v_1}{\partial t\partial x_1\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1} = (-6 + 6\omega - \omega^2)\frac{v_2\rho}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1} = (3\omega_3^2 - 2\omega_2\omega_3^2 - 6\omega_2 - 6\omega_3 + 9\omega_2\omega_3)\frac{v_2\rho}{6\omega_2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2}$ **at** $\frac{\partial^3 v_2}{\partial t\partial x_1\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2} = (-6 + 6\omega - \omega^2)\frac{v_1\rho}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2} = (-2\omega_2^2\omega_3 + 3\omega_2^2 - 6\omega_2 - 6\omega_3 + 9\omega_2\omega_3)\frac{v_1\rho}{6\omega_2^2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\rho}$ **at** $\frac{\partial^3\rho}{\partial x_1^2\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y\rho} = (-\omega^2 cs^2 + \omega^2 v_1^2 + 6v_1^2 - 6cs^2 - 6\omega v_1^2 + 6\omega cs^2)\frac{v_2}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\rho} = (-\omega_5\omega_2^2\omega_3^2 cs^2 - 2\omega_5\omega_2\omega_3 cs^2 - 2\omega_5\omega_3^2 cs^2 + \omega_5 v_1^2\omega_2^2\omega_3^2 + v_1^2\omega_2^2\omega_3^2 + 2\omega_5 v_1^2\omega_2^2 - 3\omega_5 v_1^2\omega_2^2\omega_3 + \omega_2^2\omega_3^2 cs^2 - 2\omega_2\omega_3^2 cs^2 + 4\omega_5 v_1^2\omega_3^2 + 2\omega_5 v_1^2\omega_2\omega_3 - 2v_1^2\omega_2\omega_3^2 + 4\omega_5\omega_2\omega_3^2 cs^2 - 4\omega_5 v_1^2\omega_2\omega_3^2 + \omega_5\omega_2^2\omega_3 cs^2)\frac{v_2}{2\omega_5\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y\rho} = (\omega_5 v_1^2\omega_2^2\omega_3^2 + 4cs^2\omega_5\omega_2\omega_3^2 - 2cs^2\omega_5\omega_2\omega_3 + v_1^2\omega_2^2\omega_3^2 + 2\omega_5 v_1^2\omega_2^2 - 3\omega_5 v_1^2\omega_2^2\omega_3 + cs^2\omega_2^2\omega_3^2 - 2cs^2\omega_2\omega_3^2 + cs^2\omega_5\omega_2^2\omega_3 + 4\omega_5 v_1^2\omega_3^2 + 2\omega_5 v_1^2\omega_2\omega_3 - 2v_1^2\omega_2\omega_3^2 - 2cs^2\omega_5\omega_3^2 - 4\omega_5 v_1^2\omega_2\omega_3^2 - cs^2\omega_5\omega_2^2\omega_3^2)\frac{v_2}{2\omega_5\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y\rho} = (4\omega_5\omega_2 cs^2\omega_3^2 + \omega_5 v_1^2\omega_2^2\omega_3^2 - v_1^2\omega_2^2\omega_3^2 + 2\omega_5 v_1^2\omega_2^2 - 3\omega_5 v_1^2\omega_2^2\omega_3 - 2\omega_5\omega_2 cs^2\omega_3 - 2\omega_2 cs^2\omega_3^2 + \omega_2^2 cs^2\omega_3^2 + 2\omega_5 v_1^2\omega_2\omega_3 + \omega_5\omega_2^2 cs^2\omega_3 + 2v_1^2\omega_2\omega_3^2 - 2\omega_5 v_1^2\omega_2\omega_3^2 - \omega_5\omega_2^2 cs^2\omega_3^2 - 2\omega_5 cs^2\omega_3^2)\frac{v_2}{2\omega_5\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\rho} = (-2\omega_5\omega_2\omega_3 cs^2 - 2\omega_5\omega_3^2 cs^2 - \omega_5\omega_2^2\omega_3^2 cs^2 + \omega_5 v_1^2\omega_2^2\omega_3^2 + \omega_2^2\omega_3^2 cs^2 - v_1^2\omega_2^2\omega_3^2 + 2\omega_5 v_1^2\omega_2^2 - 3\omega_5 v_1^2\omega_2^2\omega_3 - 2\omega_2\omega_3^2 cs^2 + 2\omega_5 v_1^2\omega_2\omega_3 + 2v_1^2\omega_2\omega_3^2 + \omega_5\omega_2^2\omega_3 cs^2 - 2\omega_5 v_1^2\omega_2\omega_3^2 + 4\omega_5\omega_2\omega_3^2 cs^2)\frac{v_2}{2\omega_5\omega_2^2\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y v_1}$ **at** $\frac{\partial^3 v_1}{\partial x_1^2\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y v_1} = (12 - 12\omega + \omega^2)\frac{v_1 v_2\rho}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y v_1} = (-6\omega_2^2\omega_3 + 6\omega_2^2 + \omega_2^2\omega_3^2 + 6\omega_3^2 - 6\omega_2\omega_3^2)\frac{v_1 v_2\rho}{6\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y v_2}$ **at** $\frac{\partial^3 v_2}{\partial x_1^2\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y v_2} = (-3\omega^2 cs^2 + \omega^2 v_1^2 - 24cs^2 + 24\omega cs^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y v_2} = (18\omega_5\omega_2 cs^2 + 12\omega_5 v_1^2 - 6\omega_5 v_1^2\omega_2 + 6\omega_2^2 cs^2 + \omega_5 v_1^2\omega_2^2 - 12v_1^2\omega_2 - 12\omega_2 cs^2 + 6v_1^2\omega_2^2 - 3\omega_5\omega_2^2 cs^2 - 12\omega_5 cs^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y v_2} = (12\omega_5 v_1^2 - 3cs^2\omega_5\omega_2^2 - 6\omega_5 v_1^2\omega_2 + 18cs^2\omega_5\omega_2 + \omega_5 v_1^2\omega_2^2 - 12cs^2\omega_2 - 12v_1^2\omega_2 - 12cs^2\omega_5 + 6v_1^2\omega_2^2 + 6cs^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y v_2} = (-12\omega_5 v_1^2 + 6\omega_5 v_1^2\omega_2 - 3\omega_5\omega_2^2 cs^2 - 12\omega_5 cs^2 + \omega_5 v_1^2\omega_2^2 - 12\omega_2 cs^2 + 6\omega_2^2 cs^2 + 12v_1^2\omega_2 + 18\omega_5\omega_2 cs^2 - 6v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y v_2} = (-12\omega_5 v_1^2 + 6\omega_5 v_1^2\omega_2 + 18\omega_5\omega_2 cs^2 + \omega_5 v_1^2\omega_2^2 + 6\omega_2^2 cs^2 + 12v_1^2\omega_2 - 12\omega_2 cs^2 - 3\omega_5\omega_2^2 cs^2 - 12\omega_5 cs^2 - 6v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2 v_2}$ **at** $\frac{\partial^3 v_2}{\partial t\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2} = (12 - 12\omega + \omega^2)\frac{v_2\rho}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2} = (12 + \omega_6\omega_3 - 6\omega_6 - 6\omega_3)\frac{v_2\rho}{6\omega_6\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2} = (12 + \omega_3^2 - 12\omega_3)\frac{v_2\rho}{6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^2 v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\rho}$ **at** $\frac{\partial^3\rho}{\partial x_1\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2\rho} = (-\omega^2 cs^2 + \omega^2 v_2^2 - 6cs^2 + 6v_2^2 + 6\omega cs^2 - 6\omega v_2^2)\frac{v_1}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\rho} = (-3\omega_2 v_2^2\omega_6\omega_3^2 + \omega_2\omega_6\omega_3^2 cs^2 - 2\omega_2^2\omega_6 cs^2 + 2v_2^2\omega_6\omega_3^2 + 4\omega_2^2\omega_6\omega_3 cs^2 + 2\omega_2 v_2^2\omega_6\omega_3 + \omega_2^2\omega_3^2 cs^2 + 4\omega_2^2 v_2^2\omega_6 - \omega_2^2\omega_6\omega_3^2 cs^2 - 2\omega_2^2\omega_3 cs^2 + \omega_2^2 v_2^2\omega_6\omega_3^2 + \omega_2^2 v_2^2\omega_3^2 - 2\omega_2^2 v_2^2\omega_3 - 4\omega_2^2 v_2^2\omega_6\omega_3 - 2\omega_2\omega_6\omega_3 cs^2)\frac{v_1}{2\omega_2^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2\rho} = (-3\omega_2 v_2^2\omega_6\omega_3^2 - cs^2\omega_2^2\omega_6\omega_3^2 - 2cs^2\omega_2^2\omega_3 + 2v_2^2\omega_6\omega_3^2 - 2cs^2\omega_2^2\omega_6 + 4cs^2\omega_2^2\omega_6\omega_3 + cs^2\omega_2^2\omega_3^2 + 2\omega_2 v_2^2\omega_6\omega_3 + 4\omega_2^2 v_2^2\omega_6 + \omega_2^2 v_2^2\omega_6\omega_3^2 + \omega_2^2 v_2^2\omega_3^2 - 2cs^2\omega_2\omega_6\omega_3 - 2\omega_2^2 v_2^2\omega_3 + cs^2\omega_2\omega_6\omega_3^2 - 4\omega_2^2 v_2^2\omega_6\omega_3)\frac{v_1}{2\omega_2^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2\rho} = (-3\omega_2 v_2^2\omega_6\omega_3^2 + \omega_2 cs^2\omega_6\omega_3^2 + 2v_2^2\omega_6\omega_3^2 - 2\omega_2 cs^2\omega_6\omega_3 + 2\omega_2 v_2^2\omega_6\omega_3 - 2\omega_2^2 cs^2\omega_6 + \omega_2^2 v_2^2\omega_6\omega_3^2 - \omega_2^2 v_2^2\omega_3^2 + \omega_2^2 cs^2\omega_3^2 - \omega_2^2 cs^2\omega_6\omega_3^2 - 2\omega_2^2 cs^2\omega_3 + 4\omega_2^2 cs^2\omega_6\omega_3 + 2\omega_2^2 v_2^2\omega_3 - 2\omega_2^2 v_2^2\omega_6\omega_3)\frac{v_1}{2\omega_2^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2\rho} = (-3\omega_2 v_2^2\omega_6\omega_3^2 - 2\omega_2^2\omega_6 cs^2 + \omega_2\omega_6\omega_3^2 cs^2 + 2v_2^2\omega_6\omega_3^2 + 4\omega_2^2\omega_6\omega_3 cs^2 + \omega_2^2\omega_3^2 cs^2 + 2\omega_2 v_2^2\omega_6\omega_3 + \omega_2^2 v_2^2\omega_6\omega_3^2 - \omega_2^2 v_2^2\omega_3^2 - \omega_2^2\omega_6\omega_3^2 cs^2 - 2\omega_2^2\omega_3 cs^2 - 2\omega_2\omega_6\omega_3 cs^2 + 2\omega_2^2 v_2^2\omega_3 - 2\omega_2^2 v_2^2\omega_6\omega_3)\frac{v_1}{2\omega_2^2\omega_6\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2 v_1}$ **at** $\frac{\partial^3 v_1}{\partial x_1\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2 v_1} = (-3\omega^2 cs^2 + \omega^2 v_2^2 - 24cs^2 + 24\omega cs^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_1} = (-6v_2^2\omega_6\omega_3 - 12v_2^2\omega_3 + v_2^2\omega_6\omega_3^2 + 6v_2^2\omega_3^2 - 3\omega_6\omega_3^2 cs^2 + 12v_2^2\omega_6 - 12\omega_3 cs^2 + 6\omega_3^2 cs^2 + 18\omega_6\omega_3 cs^2 - 12\omega_6 cs^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2 v_1} = (6cs^2\omega_3^2 - 12cs^2\omega_6 - 6v_2^2\omega_6\omega_3 - 12v_2^2\omega_3 + v_2^2\omega_6\omega_3^2 + 6v_2^2\omega_3^2 - 12cs^2\omega_3 + 12v_2^2\omega_6 + 18cs^2\omega_6\omega_3 - 3cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_1} = (18cs^2\omega_6\omega_3 - 12cs^2\omega_3 + 6v_2^2\omega_6\omega_3 + 12v_2^2\omega_3 + v_2^2\omega_6\omega_3^2 - 6v_2^2\omega_3^2 + 6cs^2\omega_3^2 - 3cs^2\omega_6\omega_3^2 - 12v_2^2\omega_6 - 12cs^2\omega_6)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2 v_1} = (6v_2^2\omega_6\omega_3 + 12v_2^2\omega_3 + v_2^2\omega_6\omega_3^2 - 6v_2^2\omega_3^2 - 12\omega_3 cs^2 - 12v_2^2\omega_6 - 3\omega_6\omega_3^2 cs^2 + 18\omega_6\omega_3 cs^2 + 6\omega_3^2 cs^2 - 12\omega_6 cs^2)\frac{\rho}{12\omega_6\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2 v_2}$ **at** $\frac{\partial^3 v_2}{\partial x_1\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2} = (12 - 12\omega + \omega^2)\frac{v_1 v_2\rho}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2} = (-6\omega_2^2\omega_3 + 6\omega_2^2 + \omega_2^2\omega_3^2 + 6\omega_3^2 - 6\omega_2\omega_3^2)\frac{v_1 v_2\rho}{6\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2 v_2}$

coefficient $C^{(0)}_{\mathrm{D}_y^3\rho}$ **at** $\frac{\partial^3\rho}{\partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^3\rho} = (6 - 3\omega^2 cs^2 - \omega^2 v_2^2 - 18cs^2 - 6\omega - 6v_2^2 + \omega^2 + 18\omega cs^2 + 6\omega v_2^2)\frac{v_2}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^3\rho} = (3v_2^2\omega_6\omega_3 - 6v_2^2\omega_3 - v_2^2\omega_6\omega_3^2 + 3v_2^2\omega_3^2 - 3\omega_6\omega_3^2 cs^2 - 6\omega_3 cs^2 - 3\omega_3^2 - 3\omega_6\omega_3 + 3\omega_3^2 cs^2 + 15\omega_6\omega_3 cs^2 - 12\omega_6 cs^2 + 6\omega_3 + \omega_6\omega_3^2)\frac{v_2}{6\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^3\rho} = (3cs^2\omega_3^2 - 12cs^2\omega_6 + 3v_2^2\omega_6\omega_3 - 6v_2^2\omega_3 - v_2^2\omega_6\omega_3^2 + 3v_2^2\omega_3^2 - 6cs^2\omega_3 - 3\omega_3^2 + 15cs^2\omega_6\omega_3 - 3\omega_6\omega_3 + 6\omega_3 + \omega_6\omega_3^2 - 3cs^2\omega_6\omega_3^2)\frac{v_2}{6\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^3\rho} = (6 - 3cs^2\omega_6\omega_3 + 9cs^2\omega_3 - v_2^2\omega_6\omega_3 + 3v_2^2\omega_3 + 3v_2^2\omega_6 - 6v_2^2 + 9cs^2\omega_6 - 18cs^2 + \omega_6\omega_3 - 3\omega_6 - 3\omega_3)\frac{v_2}{6\omega_6\omega_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^3\rho} = (6 - v_2^2\omega_6\omega_3 + 3v_2^2\omega_3 + 9\omega_3 cs^2 + 3v_2^2\omega_6 - 6v_2^2 + \omega_6\omega_3 - 3\omega_6\omega_3 cs^2 - 18cs^2 - 3\omega_6 - 3\omega_3 + 9\omega_6 cs^2)\frac{v_2}{6\omega_6\omega_3}$

coefficient $C^{(0)}_{\mathrm{D}_y^3 v_2}$ **at** $\frac{\partial^3 v_2}{\partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^3 v_2} = (12 - 3\omega^2 cs^2 - 5\omega^2 v_2^2 - 24cs^2 - 12\omega - 24v_2^2 + 2\omega^2 + 24\omega cs^2 + 24\omega v_2^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^3 v_2} =$
$(18v_2^2\omega_6\omega_3 - 12v_2^2\omega_3 - 5v_2^2\omega_6\omega_3^2 + 6v_2^2\omega_3^2 - 3\omega_6\omega_3^2 cs^2 - 12v_2^2\omega_6 - 12\omega_3 cs^2 - 6\omega_3^2 - 6\omega_6\omega_3 + 6\omega_3^2 cs^2 + 18\omega_6\omega_3 cs^2 - 12\omega_6 cs^2 + 12\omega_3 + 2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^3 v_2} =$
$(6cs^2\omega_3^2 - 12cs^2\omega_6 + 18v_2^2\omega_6\omega_3 - 12v_2^2\omega_3 - 5v_2^2\omega_6\omega_3^2 + 6v_2^2\omega_3^2 - 12cs^2\omega_3 - 12v_2^2\omega_6 - 6\omega_3^2 + 18cs^2\omega_6\omega_3 - 6\omega_6\omega_3 + 12\omega_3 + 2\omega_6\omega_3^2 - 3cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^3 v_2} =$
$(18cs^2\omega_6\omega_3 - 12cs^2\omega_3 + 6v_2^2\omega_6\omega_3 - 36v_2^2\omega_3 - 5v_2^2\omega_6\omega_3^2 + 18v_2^2\omega_3^2 + 6cs^2\omega_3^2 - 3cs^2\omega_6\omega_3^2 + 12v_2^2\omega_6 - 12cs^2\omega_6 - 6\omega_3^2 - 6\omega_6\omega_3 + 12\omega_3 + 2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^3 v_2} =$
$(6v_2^2\omega_6\omega_3 - 36v_2^2\omega_3 - 5v_2^2\omega_6\omega_3^2 + 18v_2^2\omega_3^2 - 12\omega_3 cs^2 + 12v_2^2\omega_6 - 3\omega_6\omega_3^2 cs^2 - 6\omega_3^2 - 6\omega_6\omega_3 + 18\omega_6\omega_3 cs^2 + 6\omega_3^2 cs^2 + 12\omega_3 - 12\omega_6 cs^2 + 2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_z v_3}$ **at** $\frac{\partial^3 v_3}{\partial t^2 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_z v_3} = (12 - 12\omega + \omega^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z v_3} = (12 + \omega_4^2 - 12\omega_4)\frac{\rho}{12\omega_4^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1}$ **at** $\frac{\partial^3 v_1}{\partial t \partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1} = (-6 + 6\omega - \omega^2)\frac{\rho v_3}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1} = (3\omega_4^2 - 6\omega_4 - 2\omega_4^2\omega_2 + 9\omega_4\omega_2 - 6\omega_2)\frac{\rho v_3}{6\omega_4^2\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3}$ **at** $\frac{\partial^3 v_3}{\partial t \partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3} = (-6 + 6\omega - \omega^2)\frac{v_1\rho}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3} = (-6\omega_4 + 3\omega_2^2 + 9\omega_4\omega_2 - 6\omega_2 - 2\omega_4\omega_2^2)\frac{v_1\rho}{6\omega_4\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z \rho}$ **at** $\frac{\partial^3 \rho}{\partial x_1^2 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_z \rho} = (-\omega^2 cs^2 + \omega^2 v_1^2 + 6v_1^2 - 6cs^2 - 6\omega v_1^2 + 6\omega cs^2)\frac{v_3}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_z\rho} = (-2\omega_4^2\omega_5cs^2 - \omega_4^2\omega_5\omega_2^2cs^2 + \omega_4^2v_1^2\omega_2^2 - 3\omega_4\omega_5v_1^2\omega_2^2 + 2\omega_4\omega_5v_1^2\omega_2 - 2\omega_4^2\omega_2cs^2 + 2\omega_5v_1^2\omega_2^2 - 2\omega_4\omega_5\omega_2cs^2 - 2\omega_4^2v_1^2\omega_2 + \omega_4\omega_5\omega_2^2cs^2 + \omega_4^2\omega_5v_1^2\omega_2^2 + \omega_4^2\omega_2^2cs^2 - 4\omega_4^2\omega_5v_1^2\omega_2 + 4\omega_4^2\omega_5v_1^2 + 4\omega_4^2\omega_5\omega_2cs^2)\frac{v_3}{2\omega_4^2\omega_5\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_z\rho} = (\omega_4^2cs^2\omega_2^2 + \omega_4^2v_1^2\omega_2^2 - 2\omega_4cs^2\omega_5\omega_2 - 3\omega_4\omega_5v_1^2\omega_2^2 + \omega_4cs^2\omega_5\omega_2^2 + 2\omega_4\omega_5v_1^2\omega_2 - 2\omega_4^2cs^2\omega_5 + 2\omega_5v_1^2\omega_2^2 - 2\omega_4^2v_1^2\omega_2 - 2\omega_4^2cs^2\omega_2 + \omega_4^2\omega_5v_1^2\omega_2^2 + 4\omega_4^2cs^2\omega_5\omega_2 - 4\omega_4^2\omega_5v_1^2\omega_2 - \omega_4^2cs^2\omega_5\omega_2^2 + 4\omega_4^2\omega_5v_1^2)\frac{v_3}{2\omega_4^2\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_z\rho} = (-\omega_4^2v_1^2\omega_2^2 + 4\omega_4^2\omega_5\omega_2cs^2 - 3\omega_4\omega_5v_1^2\omega_2^2 + 2\omega_4\omega_5v_1^2\omega_2 + \omega_4\omega_5\omega_2^2cs^2 + 2\omega_5v_1^2\omega_2^2 + \omega_4^2\omega_2^2cs^2 + 2\omega_4^2v_1^2\omega_2 - 2\omega_4^2\omega_2cs^2 + \omega_4^2\omega_5v_1^2\omega_2^2 - 2\omega_4\omega_5\omega_2cs^2 - 2\omega_4^2\omega_5cs^2 - 2\omega_4^2\omega_5v_1^2\omega_2 - \omega_4^2\omega_5\omega_2^2cs^2)\frac{v_3}{2\omega_4^2\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_z\rho} = (-\omega_4^2v_1^2\omega_2^2 - 2\omega_4^2\omega_5cs^2 - \omega_4^2\omega_5\omega_2^2cs^2 - 3\omega_4\omega_5v_1^2\omega_2^2 + 2\omega_4\omega_5v_1^2\omega_2 - 2\omega_4\omega_5\omega_2cs^2 + 2\omega_5v_1^2\omega_2^2 - 2\omega_4^2\omega_2cs^2 + 2\omega_4^2v_1^2\omega_2 + \omega_4^2\omega_2^2cs^2 + \omega_4^2\omega_5v_1^2\omega_2^2 + \omega_4\omega_5\omega_2^2cs^2 - 2\omega_4^2\omega_5v_1^2\omega_2 + 4\omega_4^2\omega_5\omega_2cs^2)\frac{v_3}{2\omega_4^2\omega_5\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_zv_1}$ **at** $\frac{\partial^3v_1}{\partial x_1^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_zv_1} = (12 - 12\omega + \omega^2)\frac{v_1\rho v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_zv_1} = (\omega_4^2\omega_2^2 + 6\omega_4^2 + 6\omega_2^2 - 6\omega_4^2\omega_2 - 6\omega_4\omega_2^2)\frac{v_1\rho v_3}{6\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_zv_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_zv_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_zv_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_zv_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_zv_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_zv_1}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_zv_3}$ **at** $\frac{\partial^3v_3}{\partial x_1^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_zv_3} = (-3\omega^2cs^2 + \omega^2v_1^2 - 24cs^2 + 24\omega cs^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_zv_3} = (18\omega_5\omega_2cs^2 + 12\omega_5v_1^2 - 6\omega_5v_1^2\omega_2 + 6\omega_2^2cs^2 + \omega_5v_1^2\omega_2^2 - 12v_1^2\omega_2 - 12\omega_2cs^2 + 6v_1^2\omega_2^2 - 3\omega_5\omega_2^2cs^2 - 12\omega_5cs^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_zv_3} = (12\omega_5v_1^2 - 3cs^2\omega_5\omega_2^2 - 6\omega_5v_1^2\omega_2 + 18cs^2\omega_5\omega_2 + \omega_5v_1^2\omega_2^2 - 12cs^2\omega_2 - 12v_1^2\omega_2 - 12cs^2\omega_5 + 6v_1^2\omega_2^2 + 6cs^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_zv_3} = (-12\omega_5v_1^2 + 6\omega_5v_1^2\omega_2 - 3\omega_5\omega_2^2cs^2 - 12\omega_5cs^2 + \omega_5v_1^2\omega_2^2 - 12\omega_2cs^2 + 6\omega_2^2cs^2 + 12v_1^2\omega_2 + 18\omega_5\omega_2cs^2 - 6v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_zv_3} = (-12\omega_5v_1^2 + 6\omega_5v_1^2\omega_2 + 18\omega_5\omega_2cs^2 + \omega_5v_1^2\omega_2^2 + 6\omega_2^2cs^2 + 12v_1^2\omega_2 - 12\omega_2cs^2 - 3\omega_5\omega_2^2cs^2 - 12\omega_5cs^2 - 6v_1^2\omega_2^2)\frac{\rho}{12\omega_5\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2}$ **at** $\frac{\partial^3v_2}{\partial t\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2} = (-6 + 6\omega - \omega^2)\frac{\rho v_3}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2} = (3\omega_4^2 - 6\omega_4 + 9\omega_4\omega_3 - 2\omega_4^2\omega_3 - 6\omega_3)\frac{\rho v_3}{6\omega_4^2\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_3}$ **at** $\frac{\partial^3v_3}{\partial t\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_zv_3} = (-6 + 6\omega - \omega^2)\frac{v_2\rho}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3} = (-2\omega_4\omega_3^2 - 6\omega_4 + 9\omega_4\omega_3 + 3\omega_3^2 - 6\omega_3)\frac{v_2\rho}{6\omega_4\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho}$ **at** $\frac{\partial^3\rho}{\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho} = (6 - 6\omega + \omega^2)\frac{2v_1v_2v_3}{\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho} = (\omega_4^2\omega_2^2 + \omega_4^2\omega_2\omega_3 + \omega_4\omega_2^2\omega_3 - 2\omega_4\omega_2^2\omega_3^2 + \omega_2^2\omega_3^2 - 2\omega_4^2\omega_2\omega_3^2 + \omega_4^2\omega_2^2\omega_3^2 + \omega_4\omega_2\omega_3^2 - 2\omega_4^2\omega_2^2\omega_3 + \omega_4^2\omega_3^2)\frac{2v_1v_2v_3}{\omega_4^2\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z\rho}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$ **at** $\frac{\partial^3 v_1}{\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = (6 - 6\omega + \omega^2)\frac{2v_2\rho v_3}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = (-6\omega_4\omega_3^2 + 3\omega_4^2 + 6\omega_4\omega_3 + 3\omega_3^2 - 6\omega_4^2\omega_3 + 2\omega_4^2\omega_3^2)\frac{v_2\rho v_3}{3\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$ **at** $\frac{\partial^3 v_2}{\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = (6 - 6\omega + \omega^2)\frac{2v_1\rho v_3}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = (2\omega_4^2\omega_2^2 + 3\omega_4^2 + 3\omega_2^2 - 6\omega_4^2\omega_2 + 6\omega_4\omega_2 - 6\omega_4\omega_2^2)\frac{v_1\rho v_3}{3\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$ **at** $\frac{\partial^3 v_3}{\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = (6 - 6\omega + \omega^2)\frac{2v_1v_2\rho}{3\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = (-6\omega_2^2\omega_3 + 3\omega_2^2 + 2\omega_2^2\omega_3^2 + 3\omega_3^2 - 6\omega_2\omega_3^2 + 6\omega_2\omega_3)\frac{v_1v_2\rho}{3\omega_2^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z\rho}$ **at** $\frac{\partial^3\rho}{\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_z\rho} = (-\omega^2cs^2+\omega^2v_2^2-6cs^2+6v_2^2+6\omega cs^2-6\omega v_2^2)\frac{v_3}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_z\rho} = (-3\omega_4v_2^2\omega_6\omega_3^2+\omega_4\omega_6\omega_3^2cs^2-2\omega_4^2\omega_6cs^2+2v_2^2\omega_6\omega_3^2+4\omega_4^2\omega_6\omega_3cs^2+2\omega_4v_2^2\omega_6\omega_3+\omega_4^2\omega_3^2cs^2-2\omega_4^2\omega_3cs^2+4\omega_4^2v_2^2\omega_6-\omega_4^2\omega_6\omega_3^2cs^2+\omega_4^2v_2^2\omega_6\omega_3^2+\omega_4^2v_2^2\omega_3^2-2\omega_4^2v_2^2\omega_3-4\omega_4^2v_2^2\omega_6\omega_3-2\omega_4\omega_6\omega_3cs^2)\frac{v_3}{2\omega_4^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_z\rho} = (-\omega_4^2cs^2\omega_6\omega_3^2-3\omega_4v_2^2\omega_6\omega_3^2+2v_2^2\omega_6\omega_3^2+2\omega_4v_2^2\omega_6\omega_3+4\omega_4^2cs^2\omega_6\omega_3+4\omega_4^2v_2^2\omega_6-2\omega_4^2cs^2\omega_3+\omega_4cs^2\omega_6\omega_3^2+\omega_4^2v_2^2\omega_6\omega_3^2+\omega_4^2v_2^2\omega_3^2-2\omega_4^2v_2^2\omega_3-4\omega_4^2v_2^2\omega_6\omega_3-2\omega_4^2cs^2\omega_6+\omega_4^2cs^2\omega_3^2-2\omega_4cs^2\omega_6\omega_3)\frac{v_3}{2\omega_4^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_z\rho} = (\omega_4cs^2\omega_6\omega_3^2-3\omega_4v_2^2\omega_6\omega_3^2+2v_2^2\omega_6\omega_3^2+2\omega_4v_2^2\omega_6\omega_3-2\omega_4cs^2\omega_6\omega_3-2\omega_4^2cs^2\omega_6-\omega_4^2cs^2\omega_6\omega_3^2+\omega_4^2cs^2\omega_3^2+\omega_4^2v_2^2\omega_6\omega_3^2-\omega_4^2v_2^2\omega_3^2+2\omega_4^2v_2^2\omega_3-2\omega_4^2v_2^2\omega_6\omega_3-2\omega_4^2cs^2\omega_3+4\omega_4^2cs^2\omega_6\omega_3)\frac{v_3}{2\omega_4^2\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_z\rho} = (\omega_4\omega_6\omega_3^2cs^2-2\omega_4^2\omega_6cs^2-3\omega_4v_2^2\omega_6\omega_3^2+2v_2^2\omega_6\omega_3^2+\omega_4^2\omega_3^2cs^2+2\omega_4v_2^2\omega_6\omega_3+4\omega_4^2\omega_6\omega_3cs^2-\omega_4^2\omega_6\omega_3^2cs^2-2\omega_4^2\omega_3cs^2+\omega_4^2v_2^2\omega_6\omega_3^2-\omega_4^2v_2^2\omega_3^2+2\omega_4^2v_2^2\omega_3-2\omega_4^2v_2^2\omega_6\omega_3-2\omega_4\omega_6\omega_3cs^2)\frac{v_3}{2\omega_4^2\omega_6\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_zv_2}$ **at** $\frac{\partial^3v_2}{\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_zv_2} = (12-12\omega+\omega^2)\frac{v_2\rho v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_zv_2} = (-6\omega_4\omega_3^2+6\omega_4^2+6\omega_3^2-6\omega_4^2\omega_3+\omega_4^2\omega_3^2)\frac{v_2\rho v_3}{6\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_zv_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_zv_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_zv_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_zv_2}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_zv_3}$ **at** $\frac{\partial^3v_3}{\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_zv_3} = (-3\omega^2cs^2+\omega^2v_2^2-24cs^2+24\omega cs^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_zv_3} = (-6v_2^2\omega_6\omega_3-12v_2^2\omega_3+v_2^2\omega_6\omega_3^2+6v_2^2\omega_3^2-3\omega_6\omega_3^2cs^2+12v_2^2\omega_6-12\omega_3cs^2+6\omega_3^2cs^2+18\omega_6\omega_3cs^2-12\omega_6cs^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_zv_3} = (6cs^2\omega_3^2-12cs^2\omega_6-6v_2^2\omega_6\omega_3-12v_2^2\omega_3+v_2^2\omega_6\omega_3^2+6v_2^2\omega_3^2-12cs^2\omega_3+12v_2^2\omega_6+18cs^2\omega_6\omega_3-3cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_zv_3} = (18cs^2\omega_6\omega_3-12cs^2\omega_3+6v_2^2\omega_6\omega_3+12v_2^2\omega_3+v_2^2\omega_6\omega_3^2-6v_2^2\omega_3^2+6cs^2\omega_3^2-3cs^2\omega_6\omega_3^2-12v_2^2\omega_6-12cs^2\omega_6)\frac{\rho}{12\omega_6\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_zv_3} = (6v_2^2\omega_6\omega_3+12v_2^2\omega_3+v_2^2\omega_6\omega_3^2-6v_2^2\omega_3^2-12\omega_3cs^2-12v_2^2\omega_6-3\omega_6\omega_3^2cs^2+18\omega_6\omega_3cs^2+6\omega_3^2cs^2-12\omega_6cs^2)\frac{\rho}{12\omega_6\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^3v_3}{\partial t\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_z^2v_3} = (12-12\omega+\omega^2)\frac{\rho v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z^2v_3} = (12-6\omega_7-6\omega_4+\omega_7\omega_4)\frac{\rho v_3}{6\omega_7\omega_4}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_z^2v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_z^2v_3} = (12+\omega_4^2-12\omega_4)\frac{\rho v_3}{6\omega_4^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_z^2 v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^3\rho}{\partial x_1\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^2\rho} = (-\omega^2cs^2 - 6\omega v_3^2 - 6cs^2 + 6v_3^2 + 6\omega cs^2 + \omega^2 v_3^2)\frac{v_1}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2\rho} = (-2\omega_7\omega_4\omega_2cs^2 - 2\omega_7\omega_2^2cs^2 + \omega_7\omega_4^2\omega_2^2v_3^2 + 4\omega_7\omega_2^2v_3^2 + 2\omega_7\omega_4\omega_2v_3^2 - \omega_7\omega_4^2\omega_2^2cs^2 - 2\omega_4\omega_2^2v_3^2 - 2\omega_4\omega_2^2cs^2 + \omega_4^2\omega_2^2v_3^2 + \omega_4^2\omega_2^2cs^2 + 2\omega_7\omega_4^2v_3^2 + \omega_7\omega_4^2\omega_2cs^2 - 4\omega_7\omega_4\omega_2^2v_3^2 - 3\omega_7\omega_4^2\omega_2v_3^2 + 4\omega_7\omega_4\omega_2^2cs^2)\frac{v_1}{2\omega_7\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^2\rho} = (\omega_4^2cs^2\omega_2^2 + \omega_7\omega_4^2\omega_2^2v_3^2 - 2\omega_7\omega_4cs^2\omega_2 + 4\omega_7\omega_2^2v_3^2 + 2\omega_7\omega_4\omega_2v_3^2 - 2\omega_4\omega_2^2v_3^2 + 4\omega_7\omega_4cs^2\omega_2^2 + \omega_4^2\omega_2^2v_3^2 - \omega_7\omega_4^2cs^2\omega_2^2 - 2\omega_7cs^2\omega_2^2 + 2\omega_7\omega_4^2v_3^2 - 2\omega_4cs^2\omega_2^2 - 4\omega_7\omega_4\omega_2^2v_3^2 + \omega_7\omega_4^2cs^2\omega_2 - 3\omega_7\omega_4^2\omega_2v_3^2)\frac{v_1}{2\omega_7\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^2\rho} = (\omega_7\omega_4^2\omega_2cs^2 + \omega_7\omega_4^2\omega_2^2v_3^2 + 2\omega_7\omega_4\omega_2v_3^2 + 4\omega_7\omega_4\omega_2^2cs^2 + 2\omega_4\omega_2^2v_3^2 + \omega_4^2\omega_2^2cs^2 - \omega_4^2\omega_2^2v_3^2 - 2\omega_4\omega_2^2cs^2 + 2\omega_7\omega_4^2v_3^2 - 2\omega_7\omega_4\omega_2^2v_3^2 - 2\omega_7\omega_2^2cs^2 - 2\omega_7\omega_4\omega_2cs^2 - \omega_7\omega_4^2\omega_2^2cs^2 - 3\omega_7\omega_4^2\omega_2v_3^2)\frac{v_1}{2\omega_7\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^2\rho} = (-\omega_7\omega_4^2\omega_2^2cs^2 + \omega_7\omega_4^2\omega_2^2v_3^2 + 2\omega_7\omega_4\omega_2v_3^2 - 2\omega_7\omega_4\omega_2cs^2 - 2\omega_7\omega_2^2cs^2 - 2\omega_4\omega_2^2cs^2 + 2\omega_4\omega_2^2v_3^2 - \omega_4^2\omega_2^2v_3^2 + \omega_4^2\omega_2^2cs^2 + 2\omega_7\omega_4^2v_3^2 - 2\omega_7\omega_4\omega_2^2v_3^2 + 4\omega_7\omega_4\omega_2^2cs^2 + \omega_7\omega_4^2\omega_2cs^2 - 3\omega_7\omega_4^2\omega_2v_3^2)\frac{v_1}{2\omega_7\omega_4^2\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2 v_1}$ **at** $\frac{\partial^3 v_1}{\partial x_1\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^2 v_1} = (-3\omega^2cs^2 - 24cs^2 + 24\omega cs^2 + \omega^2v_3^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_1} = (-12\omega_4v_3^2 - 12\omega_4cs^2 - 6\omega_7\omega_4v_3^2 + 18\omega_7\omega_4cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 12\omega_7v_3^2 + \omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^2 v_1} = (-12\omega_4v_3^2 + 18\omega_7\omega_4cs^2 - 12\omega_4cs^2 - 6\omega_7\omega_4v_3^2 + 12\omega_7v_3^2 + \omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_1} = (12\omega_4v_3^2 + 6\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_7\omega_4v_3^2 - 12\omega_7v_3^2 + 18\omega_7\omega_4cs^2 + \omega_7\omega_4^2v_3^2 - 6\omega_4^2v_3^2 - 12\omega_4cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^2 v_1} = (12\omega_4v_3^2 - 12\omega_4cs^2 + 18\omega_7\omega_4cs^2 + 6\omega_7\omega_4v_3^2 - 12\omega_7cs^2 - 12\omega_7v_3^2 - 3\omega_7\omega_4^2cs^2 + \omega_7\omega_4^2v_3^2 - 6\omega_4^2v_3^2 + 6\omega_4^2cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^2 v_3}$ **at** $\frac{\partial^3 v_3}{\partial x_1\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3} = (12 - 12\omega + \omega^2)\frac{v_1\rho v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3} = (\omega_4^2\omega_2^2 + 6\omega_4^2 + 6\omega_2^2 - 6\omega_4^2\omega_2 - 6\omega_4\omega_2^2)\frac{v_1\rho v_3}{6\omega_4^2\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^2 v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^3\rho}{\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^2\rho} = (-\omega^2cs^2 - 6\omega v_3^2 - 6cs^2 + 6v_3^2 + 6\omega cs^2 + \omega^2v_3^2)\frac{v_2}{2\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2\rho} = (\omega_7\omega_4^2\omega_3cs^2 - 4\omega_7\omega_4\omega_3^2v_3^2 - 3\omega_7\omega_4^2\omega_3v_3^2 + 4\omega_7\omega_4\omega_3^2cs^2 + \omega_4^2\omega_3^2v_3^2 + \omega_4^2\omega_3^2cs^2 - 2\omega_4\omega_3^2v_3^2 - 2\omega_4\omega_3^2cs^2 + 2\omega_7\omega_4^2v_3^2 - 2\omega_7\omega_3^2cs^2 - 2\omega_7\omega_4\omega_3cs^2 + \omega_7\omega_4^2\omega_3^2v_3^2 + 2\omega_7\omega_4\omega_3v_3^2 + 4\omega_7\omega_3^2v_3^2 - \omega_7\omega_4^2\omega_3^2cs^2)\frac{v_2}{2\omega_7\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^2\rho} = (\omega_7\omega_4^2cs^2\omega_3 - 4\omega_7\omega_4\omega_3^2v_3^2 - 2\omega_4cs^2\omega_3^2 - 3\omega_7\omega_4^2\omega_3v_3^2 + \omega_4^2\omega_3^2v_3^2 - 2\omega_7cs^2\omega_3^2 - \omega_7\omega_4^2cs^2\omega_3^2 - 2\omega_4\omega_3^2v_3^2 + 4\omega_7\omega_4cs^2\omega_3^2 + 2\omega_7\omega_4^2v_3^2 - 2\omega_7\omega_4cs^2\omega_3 + \omega_7\omega_4^2\omega_3^2v_3^2 + \omega_4^2cs^2\omega_3^2 + 2\omega_7\omega_4\omega_3v_3^2 + 4\omega_7\omega_3^2v_3^2)\frac{v_2}{2\omega_7\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^2\rho} = (-2\omega_7\omega_4\omega_3^2v_3^2 - 2\omega_7cs^2\omega_3^2 - \omega_7\omega_4^2cs^2\omega_3^2 - 3\omega_7\omega_4^2\omega_3v_3^2 + \omega_7\omega_4^2cs^2\omega_3 - \omega_4^2\omega_3^2v_3^2 - 2\omega_4cs^2\omega_3^2 + 2\omega_4\omega_3^2v_3^2 - 2\omega_7\omega_4cs^2\omega_3 + \omega_4^2cs^2\omega_3^2 + 2\omega_7\omega_4^2v_3^2 + \omega_7\omega_4^2\omega_3^2v_3^2 + 2\omega_7\omega_4\omega_3v_3^2 + 4\omega_7\omega_4cs^2\omega_3^2)\frac{v_2}{2\omega_7\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^2\rho} = (-2\omega_7\omega_4\omega_3^2v_3^2 + 4\omega_7\omega_4\omega_3^2cs^2 + \omega_7\omega_4^2\omega_3cs^2 - 3\omega_7\omega_4^2\omega_3v_3^2 - \omega_4^2\omega_3^2v_3^2 + \omega_4^2\omega_3^2cs^2 - 2\omega_4\omega_3^2cs^2 + 2\omega_4\omega_3^2v_3^2 + 2\omega_7\omega_4^2v_3^2 - \omega_7\omega_4^2\omega_3^2cs^2 + \omega_7\omega_4^2\omega_3^2v_3^2 + 2\omega_7\omega_4\omega_3v_3^2 - 2\omega_7\omega_3^2cs^2 - 2\omega_7\omega_4\omega_3cs^2)\frac{v_2}{2\omega_7\omega_4^2\omega_3^2}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2v_2}$ **at** $\frac{\partial^3v_2}{\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^2v_2} = (-3\omega^2cs^2 - 24cs^2 + 24\omega cs^2 + \omega^2v_3^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2v_2} = (-12\omega_4v_3^2 - 12\omega_4cs^2 - 6\omega_7\omega_4v_3^2 + 18\omega_7\omega_4cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 12\omega_7v_3^2 + \omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^2v_2} = (-12\omega_4v_3^2 + 18\omega_7\omega_4cs^2 - 12\omega_4cs^2 - 6\omega_7\omega_4v_3^2 + 12\omega_7v_3^2 + \omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^2v_2} = (12\omega_4v_3^2 + 6\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_7\omega_4v_3^2 - 12\omega_7v_3^2 + 18\omega_7\omega_4cs^2 + \omega_7\omega_4^2v_3^2 - 6\omega_4^2v_3^2 - 12\omega_4cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^2v_2} = (12\omega_4v_3^2 - 12\omega_4cs^2 + 18\omega_7\omega_4cs^2 + 6\omega_7\omega_4v_3^2 - 12\omega_7cs^2 - 12\omega_7v_3^2 - 3\omega_7\omega_4^2cs^2 + \omega_7\omega_4^2v_3^2 - 6\omega_4^2v_3^2 + 6\omega_4^2cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^3v_3}{\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^2v_3} = (12 - 12\omega + \omega^2)\frac{v_2\rho v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2v_3} = (-6\omega_4\omega_3^2 + 6\omega_4^2 + 6\omega_3^2 - 6\omega_4^2\omega_3 + \omega_4^2\omega_3^2)\frac{v_2\rho v_3}{6\omega_4^2\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^2v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^2v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^2v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^2v_3}$

coefficient $C^{(0)}_{\mathrm{D}_z^3\rho}$ **at** $\frac{\partial^3\rho}{\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z^3\rho} = (6 - 3\omega^2cs^2 + 6\omega v_3^2 - 18cs^2 - 6\omega - 6v_3^2 + \omega^2 + 18\omega cs^2 - \omega^2v_3^2)\frac{v_3}{6\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^3\rho} = (-6\omega_4v_3^2 + \omega_7\omega_4^2 - 3\omega_4^2 + 6\omega_4 - 6\omega_4cs^2 + 3\omega_7\omega_4v_3^2 - 3\omega_7\omega_4 + 15\omega_7\omega_4cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 - \omega_7\omega_4^2v_3^2 + 3\omega_4^2cs^2 + 3\omega_4^2v_3^2)\frac{v_3}{6\omega_7\omega_4^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z^3\rho} = (-6\omega_4v_3^2 + 15\omega_7\omega_4cs^2 + \omega_7\omega_4^2 - 3\omega_4^2 + 6\omega_4 - 6\omega_4cs^2 + 3\omega_7\omega_4v_3^2 - 3\omega_7\omega_4 - \omega_7\omega_4^2v_3^2 + 3\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 3\omega_4^2v_3^2)\frac{v_3}{6\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z^3\rho} = (6 + 3\omega_4v_3^2 - 3\omega_7 - 3\omega_4 + 9\omega_7cs^2 - \omega_7\omega_4v_3^2 + \omega_7\omega_4 - 18cs^2 - 6v_3^2 + 3\omega_7v_3^2 - 3\omega_7\omega_4cs^2 + 9\omega_4cs^2)\frac{v_3}{6\omega_7\omega_4}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z^3\rho} = (6 + 3\omega_4v_3^2 - 3\omega_7 + 9\omega_4cs^2 - 3\omega_4 - 3\omega_7\omega_4cs^2 - \omega_7\omega_4v_3^2 + \omega_7\omega_4 - 6v_3^2 - 18cs^2 + 9\omega_7cs^2 + 3\omega_7v_3^2)\frac{v_3}{6\omega_7\omega_4}$

coefficient $C^{(0)}_{\mathrm{D}_z^3v_3}$ **at** $\frac{\partial^3v_3}{\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z^3v_3} = (12 - 3\omega^2cs^2 + 24\omega v_3^2 - 24cs^2 - 12\omega - 24v_3^2 + 2\omega^2 + 24\omega cs^2 - 5\omega^2v_3^2)\frac{\rho}{12\omega^2}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^3v_3} =$
$(-12\omega_4v_3^2 + 2\omega_7\omega_4^2 - 6\omega_4^2 + 12\omega_4 - 12\omega_4cs^2 + 18\omega_7\omega_4v_3^2 - 6\omega_7\omega_4 + 18\omega_7\omega_4cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 - 12\omega_7v_3^2 - 5\omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z^3v_3} =$
$(-12\omega_4v_3^2 + 18\omega_7\omega_4cs^2 + 2\omega_7\omega_4^2 - 6\omega_4^2 + 12\omega_4 - 12\omega_4cs^2 + 18\omega_7\omega_4v_3^2 - 6\omega_7\omega_4 - 12\omega_7v_3^2 - 5\omega_7\omega_4^2v_3^2 + 6\omega_4^2cs^2 - 12\omega_7cs^2 - 3\omega_7\omega_4^2cs^2 + 6\omega_4^2v_3^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z^3 v_3} =$
$(-36\omega_4 v_3^2+2\omega_7\omega_4^2+6\omega_4^2 cs^2-6\omega_4^2+12\omega_4-12\omega_7 cs^2-3\omega_7\omega_4^2 cs^2+6\omega_7\omega_4 v_3^2-6\omega_7\omega_4+12\omega_7 v_3^2+18\omega_7\omega_4 cs^2-5\omega_7\omega_4^2 v_3^2+18\omega_4^2 v_3^2-12\omega_4 cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_z^3 v_3} =$
$(-36\omega_4 v_3^2+2\omega_7\omega_4^2-12\omega_4 cs^2-6\omega_4^2+12\omega_4+18\omega_7\omega_4 cs^2+6\omega_7\omega_4 v_3^2-6\omega_7\omega_4-12\omega_7 cs^2+12\omega_7 v_3^2-3\omega_7\omega_4^2 cs^2-5\omega_7\omega_4^2 v_3^2+18\omega_4^2 v_3^2+6\omega_4^2 cs^2)\frac{\rho}{12\omega_7\omega_4^2}$

coefficient $C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_x v_1}$ **at** $\frac{\partial^4 v_1}{\partial t^3 \partial x_1}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^3\mathrm{D}_x v_1} = (-2+3\omega-\omega^2)\frac{\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_x v_1} = (-2-\omega_2^2+3\omega_2)\frac{\rho}{2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^3\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^3\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_x v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^3\mathrm{D}_x v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_x v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1}$ **at** $\frac{\partial^4 v_1}{\partial t^2 \partial x_1^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1} = (-2+3\omega-\omega^2)\frac{3v_1\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1} = (-2\omega_5\omega_2^3+8\omega_5\omega_2^2+2\omega_5^2+2\omega_2^3-4\omega_5\omega_2-4\omega_2^2-\omega_5^2\omega_2-\omega_5^2\omega_2^2)\frac{v_1\rho}{2\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1} = (-2-\omega_2^2+3\omega_2)\frac{3v_1\rho}{2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x^2 v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^3 v_1}$ **at** $\frac{\partial^4 v_1}{\partial t \partial x_1^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^3 v_1} = (-36+34\omega^2 cs^2+42\omega^2 v_1^2+72v_1^2-2\omega^3 cs^2-3\omega^3 v_1^2+60cs^2+54\omega+\omega^3-20\omega^2-108\omega v_1^2-90\omega cs^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^3 v_1} = (24\omega_5\omega_2 cs^2-9\omega_5\omega_2^3-6\omega_2^3 cs^2+24\omega_5^2 cs^2+25\omega_5^2\omega_2^2 cs^2+36\omega_5\omega_2^2+48\omega_5 v_1^2\omega_2+6\omega_2^3-24\omega_5\omega_2+12\omega_2^2 cs^2-60\omega_5 v_1^2\omega_2^2-12\omega_2^2+15\omega_5 v_1^2\omega_2^3-2\omega_5^2\omega_2^3 cs^2+27\omega_5^2 v_1^2\omega_2^2+12\omega_5^2\omega_2+9\omega_5\omega_2^3 cs^2-3\omega_5^2 v_1^2\omega_2^3-11\omega_5^2\omega_2^2-48\omega_5^2\omega_2 cs^2-6v_1^2\omega_2^3+12v_1^2\omega_2^2-42\omega_5^2 v_1^2\omega_2+\omega_5^2\omega_2^3-36\omega_5\omega_2^2 cs^2+12\omega_5^2 v_1^2)\frac{\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^3 v_1} =$
$(9cs^2\omega_5\omega_2^3-9\omega_5\omega_2^3-36cs^2\omega_5\omega_2^2+36\omega_5\omega_2^2+48\omega_5 v_1^2\omega_2+6\omega_2^3-24\omega_5\omega_2+24cs^2\omega_5\omega_2-60\omega_5 v_1^2\omega_2^2-12\omega_2^2+15\omega_5 v_1^2\omega_2^3+27\omega_5^2 v_1^2\omega_2^2-48cs^2\omega_5^2\omega_2+12\omega_5^2\omega_2-3\omega_5^2 v_1^2\omega_2^3-11\omega_5^2\omega_2^2+25cs^2\omega_5^2\omega_2^2-6v_1^2\omega_2^3-6cs^2\omega_2^3+24cs^2\omega_5^2+12v_1^2\omega_2^2-42\omega_5^2 v_1^2\omega_2+\omega_5^2\omega_2^3-2cs^2\omega_5^2\omega_2^3+12\omega_5^2 v_1^2+12cs^2\omega_2^2)\frac{\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^3 v_1} =$
$(-48\omega_5^2\omega_2 cs^2-9\omega_5\omega_2^3+36\omega_5\omega_2^2+72\omega_5 v_1^2\omega_2-36\omega_5\omega_2^2 cs^2+6\omega_2^3-24\omega_5\omega_2-108\omega_5 v_1^2\omega_2^2-12\omega_2^2+9\omega_5\omega_2^3 cs^2+27\omega_5 v_1^2\omega_2^3+12\omega_2^2 cs^2+15\omega_5^2 v_1^2\omega_2^2+12\omega_5^2\omega_2-3\omega_5^2 v_1^2\omega_2^3-2\omega_5^2\omega_2^3 cs^2-11\omega_5^2\omega_2^2-6\omega_2^3 cs^2+24\omega_5\omega_2 cs^2-18v_1^2\omega_2^3+24\omega_5^2 cs^2+36v_1^2\omega_2^2+18\omega_5^2 v_1^2\omega_2+25\omega_5^2\omega_2^2 cs^2+\omega_5^2\omega_2^3-36\omega_5^2 v_1^2)\frac{\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^3 v_1} = (25\omega_5^2\omega_2^2 cs^2-9\omega_5\omega_2^3+36\omega_5\omega_2^2+72\omega_5 v_1^2\omega_2-6\omega_2^3 cs^2+24\omega_5\omega_2 cs^2+24\omega_5^2 cs^2+6\omega_2^3-24\omega_5\omega_2-108\omega_5 v_1^2\omega_2^2-2\omega_5^2\omega_2^3 cs^2-12\omega_2^2+12\omega_2^2 cs^2+27\omega_5 v_1^2\omega_2^3+9\omega_5\omega_2^3 cs^2+15\omega_5^2 v_1^2\omega_2^2+12\omega_5^2\omega_2-3\omega_5^2 v_1^2\omega_2^3-11\omega_5^2\omega_2^2-36\omega_5\omega_2^2 cs^2-18v_1^2\omega_2^3-48\omega_5^2\omega_2 cs^2+36v_1^2\omega_2^2+18\omega_5^2 v_1^2\omega_2+\omega_5^2\omega_2^3-36\omega_5^2 v_1^2)\frac{\rho}{12\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^4\rho}$ **at** $\frac{\partial^4 \rho}{\partial x_1^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}^4_x\rho} = (-14\omega^2cs^2 - 84\omega^2v_1^2cs^2 + 108\omega v_1^4 - 72\omega cs^4 + 42\omega^2v_1^2 + 72v_1^2 + \omega^3cs^2 - 3\omega^3v_1^2 - 24cs^2 - 72v_1^4 - 3\omega^3cs^4 + 3\omega^3v_1^4 + 6\omega^3v_1^2cs^2 + 48cs^4 + 216\omega v_1^2cs^2 + 30\omega^2cs^4 - 108\omega v_1^2 + 36\omega cs^2 - 42\omega^2v_1^4 - 144v_1^2cs^2)\frac{1}{24\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}^4_x\rho} = (-24\omega_5\omega_2cs^2 - 48\omega_5^2\omega_2cs^4 + 48\omega_5v_1^2\omega_2^2cs^2 + 3\omega_5^2v_1^4\omega_2^3 - 8\omega_5^2\omega_2^2cs^2 + 48\omega_5v_1^2\omega_2 - 24\omega_5^2v_1^4\omega_2^2 + 12v_1^2\omega_2^3cs^2 - 24\omega_5\omega_2^2cs^4 - 24v_1^4\omega_2^2 + 24\omega_5^2v_1^4\omega_2 - 12\omega_5v_1^2\omega_2^3cs^2 - 96\omega_5^2v_1^2cs^2 - 72\omega_5v_1^2\omega_2^2 - 24v_1^2\omega_2^2cs^2 + 6\omega_5\omega_2^3cs^4 + 156\omega_5^2v_1^2\omega_2cs^2 + 12v_1^4\omega_2^3 + 18\omega_5v_1^2\omega_2^3 + \omega_5^2\omega_2^3cs^2 - 48\omega_5v_1^4\omega_2 - 72\omega_5^2v_1^2\omega_2^2cs^2 + 24\omega_5^2v_1^2\omega_2^2 - 3\omega_5^2\omega_2^3cs^4 - 6\omega_5\omega_2^3cs^2 - 3\omega_5^2v_1^2\omega_2^3 + 12\omega_5^2\omega_2cs^2 + 24\omega_5^2cs^4 - 12v_1^2\omega_2^3 - 18\omega_5v_1^4\omega_2^3 + 6\omega_5^2v_1^2\omega_2^3cs^2 + 24\omega_5\omega_2cs^4 + 24v_1^2\omega_2^2 - 24\omega_5^2v_1^2\omega_2 + 24\omega_5\omega_2^2cs^2 + 24\omega_5^2\omega_2^2cs^4 - 24\omega_5v_1^2\omega_2cs^2 + 72\omega_5v_1^4\omega_2^2)\frac{1}{24\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}^4_x\rho} = (-6cs^2\omega_5\omega_2^3 + 24cs^4\omega_5\omega_2 + 3\omega_5^2v_1^4\omega_2^3 + 24cs^2\omega_5\omega_2^2 + 48\omega_5v_1^2\omega_2 - 24cs^2\omega_5v_1^2\omega_2 - 24\omega_5^2v_1^4\omega_2^2 - 24v_1^4\omega_2^2 + 24\omega_5^2v_1^4\omega_2 + 6cs^4\omega_5\omega_2^3 - 24cs^2\omega_5\omega_2 - 72\omega_5v_1^2\omega_2^2 + 48cs^2\omega_5v_1^2\omega_2^2 - 24cs^4\omega_5\omega_2^2 + 12v_1^4\omega_2^3 - 12cs^2\omega_5v_1^2\omega_2^3 + 18\omega_5v_1^2\omega_2^3 + 24cs^4\omega_5^2 + 24cs^4\omega_5^2\omega_2^2 - 48\omega_5v_1^4\omega_2 - 72cs^2\omega_5^2v_1^2\omega_2^2 + 24\omega_5^2v_1^2\omega_2^2 - 3cs^4\omega_5^2\omega_2^3 + 12cs^2\omega_5^2\omega_2 - 3\omega_5^2v_1^2\omega_2^3 + 6cs^2\omega_5^2v_1^2\omega_2^3 - 8cs^2\omega_5^2\omega_2^2 - 12v_1^2\omega_2^3 + 12cs^2v_1^2\omega_2^3 - 18\omega_5v_1^4\omega_2^3 + 24v_1^2\omega_2^2 - 24cs^2v_1^2\omega_2^2 + 156cs^2\omega_5^2v_1^2\omega_2 - 24\omega_5^2v_1^2\omega_2 + cs^2\omega_5^2\omega_2^3 - 96cs^2\omega_5^2v_1^2 - 48cs^4\omega_5^2\omega_2 + 72\omega_5v_1^4\omega_2^2)\frac{1}{24\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}^4_x\rho} =$
$(12\omega_5^2\omega_2cs^2 + 24\omega_5^2cs^4 + 6\omega_5^2v_1^2\omega_2^3cs^2 + 3\omega_5^2v_1^4\omega_2^3 + 24\omega_5\omega_2cs^4 + 24\omega_5\omega_2^2cs^2 - 12\omega_5^2v_1^4\omega_2^2 + 72\omega_5v_1^2\omega_2cs^2 + 24\omega_5^2\omega_2^2cs^4 - 72v_1^4\omega_2^2 - 12\omega_5^2v_1^2\omega_2^2cs^2 - 72\omega_5v_1^2\omega_2^2 - 3\omega_5^2\omega_2^3cs^4 + 36v_1^4\omega_2^3 - 6\omega_5\omega_2^3cs^2 + 30\omega_5v_1^2\omega_2^3 - 72\omega_5v_1^2\omega_2^3cs^2 + 12\omega_5^2v_1^2\omega_2^2 + 6\omega_5\omega_2^3cs^4 - 216v_1^2\omega_2^2cs^2 - 36\omega_5^2v_1^2\omega_2cs^2 - 3\omega_5^2v_1^2\omega_2^3 + \omega_5^2\omega_2^3cs^2 - 24\omega_5\omega_2cs^2 - 36v_1^2\omega_2^3 + 144\omega_5v_1^2\omega_2^2cs^2 - 48\omega_5^2\omega_2cs^4 - 30\omega_5v_1^4\omega_2^3 + 72v_1^2\omega_2^2 - 8\omega_5^2\omega_2^2cs^2 + 72\omega_5v_1^4\omega_2^2 - 24\omega_5\omega_2^2cs^4 + 108v_1^2\omega_2^3cs^2)\frac{1}{24\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_x\rho} =$
$(-8\omega_5^2\omega_2^2cs^2 + 3\omega_5^2v_1^4\omega_2^3 - 24\omega_5\omega_2^2cs^4 + 108v_1^2\omega_2^3cs^2 - 24\omega_5\omega_2cs^2 - 48\omega_5^2\omega_2cs^4 + 144\omega_5v_1^2\omega_2^2cs^2 - 12\omega_5^2v_1^4\omega_2^2 + 6\omega_5\omega_2^3cs^4 - 72v_1^4\omega_2^2 - 216v_1^2\omega_2^2cs^2 - 36\omega_5^2v_1^2\omega_2cs^2 - 72\omega_5v_1^2\omega_2^2 + \omega_5^2\omega_2^3cs^2 - 72\omega_5v_1^2\omega_2^3cs^2 + 36v_1^4\omega_2^3 + 30\omega_5v_1^2\omega_2^3 - 3\omega_5^2\omega_2^3cs^4 - 6\omega_5\omega_2^3cs^2 + 12\omega_5^2v_1^2\omega_2^2 - 12\omega_5^2v_1^2\omega_2^2cs^2 - 3\omega_5^2v_1^2\omega_2^3 + 24\omega_5\omega_2^2cs^2 - 36v_1^2\omega_2^3 - 30\omega_5v_1^4\omega_2^3 + 24\omega_5^2\omega_2^2cs^4 + 72\omega_5v_1^2\omega_2cs^2 + 12\omega_5^2\omega_2cs^2 + 72v_1^2\omega_2^2 + 24\omega_5^2cs^4 + 6\omega_5^2v_1^2\omega_2^3cs^2 + 72\omega_5v_1^4\omega_2^2 + 24\omega_5\omega_2cs^4)\frac{1}{24\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}^4_x v_1}$ **at** $\frac{\partial^4 v_1}{\partial x_1^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}^4_x v_1} = (24 - 26\omega^2cs^2 - 22\omega^2v_1^2 - 36v_1^2 + \omega^3cs^2 + 2\omega^3v_1^2 - 48cs^2 - 36\omega - \omega^3 + 14\omega^2 + 54\omega v_1^2 + 72\omega cs^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}^4_x v_1} =$
$(-12\omega_5\omega_2cs^2 + 6\omega_5\omega_2^3 + 6\omega_2^3cs^2 - 24\omega_5^2cs^2 - 20\omega_5^2\omega_2^2cs^2 - 24\omega_5\omega_2^2 - 12\omega_5v_1^2\omega_2 - 6\omega_2^3 + 12\omega_5\omega_2 - 12\omega_2^2cs^2 + 24\omega_5v_1^2\omega_2^2 + 12\omega_2^2 - 6\omega_5v_1^2\omega_2^3 + \omega_5^2\omega_2^3cs^2 - 16\omega_5^2v_1^2\omega_2^2 - 6\omega_5^2\omega_2 - 6\omega_5\omega_2^3cs^2 + 2\omega_5^2v_1^2\omega_2^3 + 8\omega_5^2\omega_2^2 + 42\omega_5^2\omega_2cs^2 + 6v_1^2\omega_2^3 - 12v_1^2\omega_2^2 + 24\omega_5^2v_1^2\omega_2 - \omega_5^2\omega_2^3 + 24\omega_5\omega_2^2cs^2 - 12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}^4_x v_1} =$
$(-6cs^2\omega_5\omega_2^3 + 6\omega_5\omega_2^3 + 24cs^2\omega_5\omega_2^2 - 24\omega_5\omega_2^2 - 12\omega_5v_1^2\omega_2 - 6\omega_2^3 + 12\omega_5\omega_2 - 12cs^2\omega_5\omega_2 + 24\omega_5v_1^2\omega_2^2 + 12\omega_2^2 - 6\omega_5v_1^2\omega_2^3 - 16\omega_5^2v_1^2\omega_2^2 + 42cs^2\omega_5^2\omega_2 - 6\omega_5^2\omega_2 + 2\omega_5^2v_1^2\omega_2^3 + 8\omega_5^2\omega_2^2 - 20cs^2\omega_5^2\omega_2^2 + 6v_1^2\omega_2^3 + 6cs^2\omega_2^3 - 24cs^2\omega_5^2 - 12v_1^2\omega_2^2 + 24\omega_5^2v_1^2\omega_2 - \omega_5^2\omega_2^3 + cs^2\omega_5^2\omega_2^3 - 12\omega_5^2v_1^2 - 12cs^2\omega_2^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}^4_x v_1} =$
$(-30\omega_5^2\omega_2cs^2 + 12\omega_5\omega_2^3 - 24\omega_5\omega_2^2 + 60\omega_5v_1^2\omega_2 + 72\omega_5\omega_2^2cs^2 - 18\omega_2^3 - 12\omega_5\omega_2 + 24\omega_5v_1^2\omega_2^2 + 36\omega_2^2 - 24\omega_5\omega_2^3cs^2 - 24\omega_5v_1^2\omega_2^3 - 60\omega_2^2cs^2 + 2\omega_5^2v_1^2\omega_2^2 + 6\omega_5^2\omega_2 + 2\omega_5^2v_1^2\omega_2^3 + \omega_5^2\omega_2^3cs^2 + 2\omega_5^2\omega_2^2 + 30\omega_2^3cs^2 - 12\omega_5\omega_2cs^2 + 42v_1^2\omega_2^3 + 24\omega_5^2cs^2 - 84v_1^2\omega_2^2 - 12\omega_5^2v_1^2\omega_2 - 2\omega_5^2\omega_2^2cs^2 - \omega_5^2\omega_2^3 - 12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_x v_1} = (-2\omega_5^2\omega_2^2cs^2 + 12\omega_5\omega_2^3 - 24\omega_5\omega_2^2 + 60\omega_5v_1^2\omega_2 + 30\omega_2^3cs^2 - 12\omega_5\omega_2cs^2 + 24\omega_5^2cs^2 - 18\omega_2^3 - 12\omega_5\omega_2 + 24\omega_5v_1^2\omega_2^2 + \omega_5^2\omega_2^3cs^2 + 36\omega_2^2 - 60\omega_2^2cs^2 - 24\omega_5v_1^2\omega_2^3 - 24\omega_5\omega_2^3cs^2 + 2\omega_5^2v_1^2\omega_2^2 + 6\omega_5^2\omega_2 + 2\omega_5^2v_1^2\omega_2^3 + 2\omega_5^2\omega_2^2 + 72\omega_5\omega_2^2cs^2 + 42v_1^2\omega_2^3 - 30\omega_5^2\omega_2cs^2 - 84v_1^2\omega_2^2 - 12\omega_5^2v_1^2\omega_2 - \omega_5^2\omega_2^3 - 12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_y v_2}$ **at** $\frac{\partial^4 v_2}{\partial t^3\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^3\mathrm{D}_y v_2} = (-2 + 3\omega - \omega^2)\frac{\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_y v_2} = (-2 - \omega_3^2 + 3\omega_3)\frac{\rho}{2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^3\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^3\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^3\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1}$ **at** $\frac{\partial^4 v_1}{\partial t^2 \partial x_1 \partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1} = (36 - 54\omega - \omega^3 + 20\omega^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1} = (-24\omega_2^2\omega_3 - \omega_2^2\omega_3^3 + 12\omega_2^2 + 13\omega_2^2\omega_3^2 + 12\omega_3^2 - 24\omega_2\omega_3^2 + 7\omega_2\omega_3^3 - 6\omega_3^3 + 12\omega_2\omega_3)\frac{v_2\rho}{12\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2}$ **at** $\frac{\partial^4 v_2}{\partial t^2 \partial x_1 \partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2} = (36 - 54\omega - \omega^3 + 20\omega^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2} = (-24\omega_2^2\omega_3 - \omega_2^3\omega_3^2 + 7\omega_2^3\omega_3 - 6\omega_2^3 + 12\omega_2^2 + 13\omega_2^2\omega_3^2 + 12\omega_3^2 - 24\omega_2\omega_3^2 + 12\omega_2\omega_3)\frac{v_1\rho}{12\omega_2^3\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_y v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1}$ **at** $\frac{\partial^4 v_1}{\partial t \partial x_1^2 \partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1} = (-24 + 36\omega + \omega^3 - 14\omega^2)\frac{v_1 v_2\rho}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1} = (-6\omega_5\omega_2^3 + 3\omega_2^3\omega_3^3 + 24\omega_5\omega_2\omega_3^3 - 12\omega_5\omega_2\omega_3^2 - 6\omega_2^3\omega_3^2 - 6\omega_2^2\omega_3^3 + 12\omega_2^2\omega_3^2 - 7\omega_5\omega_2^3\omega_3^2 + \omega_5\omega_2^3\omega_3^3 - 6\omega_5\omega_2^2\omega_3 + 12\omega_5\omega_2^2\omega_3^2 - 12\omega_5\omega_3^3 - 10\omega_5\omega_2^2\omega_3^3 + 12\omega_5\omega_2^3\omega_3)\frac{v_1 v_2\rho}{6\omega_5\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1} = (\omega_2^3\omega_3^3 - 6\omega_2^2\omega_3 - 7\omega_2^3\omega_3^2 - 7\omega_2^2\omega_3^3 + 12\omega_2^3\omega_3 - 6\omega_2^3 + 6\omega_2^2\omega_3^2 + 18\omega_2\omega_3^3 - 12\omega_3^3)\frac{v_1 v_2\rho}{6\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2}$ **at** $\frac{\partial^4 v_2}{\partial t \partial x_1^2 \partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2} = (34\omega^2 cs^2 - 2\omega^2 v_1^2 - 2\omega^3 cs^2 + \omega^3 v_1^2 + 60cs^2 - 90\omega cs^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2} = (12\omega_5^2\omega_3 cs^2 + 9\omega_5 v_1^2\omega_2^3\omega_3 - 24\omega_5^2 v_1^2\omega_3 + 12\omega_5\omega_2\omega_3 cs^2 - 18\omega_5^2\omega_2^2 cs^2 + 36\omega_5^2 v_1^2\omega_2\omega_3 + 12v_1^2\omega_2^2\omega_3 - 6\omega_2^3\omega_3 cs^2 + 12\omega_5 v_1^2\omega_2^2 + 9\omega_5\omega_2^3\omega_3 cs^2 - 30\omega_5 v_1^2\omega_2^2\omega_3 - 6v_1^2\omega_2^3\omega_3 + 22\omega_5^2\omega_2^2\omega_3 cs^2 - 6\omega_5 v_1^2\omega_2^3 + 3\omega_5^2\omega_2^3 cs^2 + 6\omega_5^2 v_1^2\omega_2^2 + 12\omega_2^2\omega_3 cs^2 + \omega_5^2 v_1^2\omega_2^3\omega_3 - 6\omega_5\omega_2^3 cs^2 - 30\omega_5^2\omega_2\omega_3 cs^2 + 12\omega_5 v_1^2\omega_2\omega_3 - \omega_5^2 v_1^2\omega_2^3 - 2\omega_5^2\omega_2^3\omega_3 cs^2 + 12\omega_5^2\omega_2 cs^2 - 10\omega_5^2 v_1^2\omega_2^2\omega_3 - 12\omega_5^2 v_1^2\omega_2 - 30\omega_5\omega_2^2\omega_3 cs^2 + 12\omega_5\omega_2^2 cs^2)\frac{\rho}{12\omega_5^2\omega_2^3\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2} = (9\omega_5 v_1^2\omega_2^3\omega_3 - 24\omega_5^2 v_1^2\omega_3 - 6cs^2\omega_5\omega_2^3 + 12cs^2\omega_2^2\omega_3 + 36\omega_5^2 v_1^2\omega_2\omega_3 + 12cs^2\omega_5\omega_2^2 + 12v_1^2\omega_2^2\omega_3 - 2cs^2\omega_5^2\omega_2^3\omega_3 - 6cs^2\omega_2^3\omega_3 + 12cs^2\omega_5\omega_2\omega_3 + 12cs^2\omega_5^2\omega_3 + 12\omega_5 v_1^2\omega_2^2 - 30\omega_5 v_1^2\omega_2^2\omega_3 + 22cs^2\omega_5^2\omega_2^2\omega_3 - 6v_1^2\omega_2^3\omega_3 - 6\omega_5 v_1^2\omega_2^3 - 30cs^2\omega_5^2\omega_2\omega_3 + 6\omega_5^2 v_1^2\omega_2^2 + \omega_5^2 v_1^2\omega_2^3\omega_3 - 30cs^2\omega_5\omega_2^2\omega_3 + 12cs^2\omega_5^2\omega_2 + 12\omega_5 v_1^2\omega_2\omega_3 - \omega_5^2 v_1^2\omega_2^3 - 18cs^2\omega_5^2\omega_2^2 - 10\omega_5^2 v_1^2\omega_2^2\omega_3 - 12\omega_5^2 v_1^2\omega_2 + 3cs^2\omega_5^2\omega_2^3 + 9cs^2\omega_5\omega_2^3\omega_3)\frac{\rho}{12\omega_5^2\omega_2^3\omega_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2} = (12\omega_5^2\omega_2 cs^2 - 9\omega_5 v_1^2\omega_2^2\omega_3 + 24\omega_5^2 v_1^2\omega_3 + 9\omega_5\omega_2^3 cs^2\omega_3 - 36\omega_5^2 v_1^2\omega_2\omega_3 + 22\omega_5^2\omega_2^2 cs^2\omega_3 + 12\omega_5\omega_2^2 cs^2 - 12v_1^2\omega_2^2\omega_3 + 12\omega_5^2 cs^2\omega_3 - 12\omega_5 v_1^2\omega_2^2 + 30\omega_5 v_1^2\omega_2^2\omega_3 + 12\omega_5\omega_2 cs^2\omega_3 - 6\omega_5\omega_2^3 cs^2 + 6v_1^2\omega_2^3\omega_3 + 6\omega_5 v_1^2\omega_2^3 - 6\omega_2^3 cs^2\omega_3 - 2\omega_5^2\omega_2^3 cs^2\omega_3 - 6\omega_5^2 v_1^2\omega_2^2 + \omega_5^2 v_1^2\omega_2^3\omega_3 - 12\omega_5 v_1^2\omega_2\omega_3 - \omega_5^2 v_1^2\omega_2^3 - 30\omega_5\omega_2^2 cs^2\omega_3 + 3\omega_5^2\omega_2^3 cs^2 + 8\omega_5^2 v_1^2\omega_2^2\omega_3 + 12\omega_2^2 cs^2\omega_3 + 12\omega_5^2 v_1^2\omega_2 - 18\omega_5^2\omega_2^2 cs^2 - 30\omega_5^2\omega_2 cs^2\omega_3)\frac{\rho}{12\omega_5^2\omega_2^3\omega_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_y v_2} = (12\omega_5\omega_2\omega_3 cs^2 - 9\omega_5 v_1^2\omega_2^3\omega_3 + 24\omega_5^2 v_1^2\omega_3 - 18\omega_5^2\omega_2^2 cs^2 - 6\omega_2^3\omega_3 cs^2 - 36\omega_5^2 v_1^2\omega_2\omega_3 + 12\omega_5^2\omega_3 cs^2 - 12v_1^2\omega_2^2\omega_3 + 22\omega_5^2\omega_2^2\omega_3 cs^2 - 12\omega_5 v_1^2\omega_2^2 + 3\omega_5^2\omega_2^3 cs^2 + 30\omega_5 v_1^2\omega_2^2\omega_3 + 6v_1^2\omega_2^3\omega_3 + 6\omega_5 v_1^2\omega_2^3 + 9\omega_5\omega_2^3\omega_3 cs^2 - 6\omega_5\omega_2^3 cs^2 - 6\omega_5^2 v_1^2\omega_2^2 - 30\omega_5^2\omega_2\omega_3 cs^2 + \omega_5^2 v_1^2\omega_2^3\omega_3 - 12\omega_5 v_1^2\omega_2\omega_3 - \omega_5^2 v_1^2\omega_2^3 + 12\omega_2^2\omega_3 cs^2 + 8\omega_5^2 v_1^2\omega_2^2\omega_3 - 30\omega_5\omega_2^2\omega_3 cs^2 + 12\omega_5\omega_2^2 cs^2 + 12\omega_5^2\omega_2 cs^2 + 12\omega_5^2 v_1^2\omega_2 - 2\omega_5^2\omega_2^3\omega_3 cs^2)\frac{\rho}{12\omega_5^2\omega_2^3\omega_3}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1^3\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_y\rho} = (24 - 72\omega^2 cs^2 + 6\omega^3 cs^2 - 120cs^2 - 36\omega - \omega^3 + 14\omega^2 + 180\omega cs^2)\frac{v_1 v_2}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_y\rho} = (42\omega_5 v_1^2\omega_2^2\omega_3^3 + 78\omega_5^2\omega_2\omega_3^3 cs^2 - 12\omega_5\omega_2^2\omega_3^3 cs^2 - 3\omega_2^3\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^2 + 12\omega_5\omega_2\omega_3^3 - 12\omega_5^2\omega_2^3\omega_3^2 cs^2 - 12\omega_2^2\omega_3^3 cs^2 - 12\omega_5 v_1^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 + 7\omega_5^2\omega_2^2\omega_3^3 + \omega_5^2\omega_2^3\omega_3^2 + 6\omega_2^2\omega_3^3 + 42\omega_5\omega_2^2\omega_3^3 cs^2 + 12\omega_5^2 v_1^2\omega_2\omega_3^2 - 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2 v_1^2\omega_3^3 - 24\omega_5^2\omega_2\omega_3^2 cs^2 - \omega_5^2\omega_2^3\omega_3^3 - 12v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3 cs^2 + 6\omega_5 v_1^2\omega_2^3\omega_3^2 - 30\omega_5^2 v_1^2\omega_2\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3 cs^2 - 3\omega_5\omega_2^3\omega_3^2 + 6\omega_2^3\omega_3 cs^2 + 42\omega_5^2\omega_2^2\omega_3^2 cs^2 + 6\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 24\omega_5\omega_2\omega_3^3 cs^2 - 12\omega_5^2 v_1^2\omega_2^2\omega_3 + 6\omega_5\omega_2^3\omega_3^3 - 12\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 6\omega_5^2 v_1^2\omega_2^3 + 6\omega_5\omega_2^3\omega_3^2 cs^2 - 36\omega_5^2\omega_3^3 cs^2 + 6\omega_5^2\omega_2^3\omega_3 cs^2 + 6\omega_5^2 v_1^2\omega_2^2\omega_3 - 48\omega_5^2\omega_2^2\omega_3^3 cs^2 - 6\omega_5^2\omega_2\omega_3^3 + 6\omega_5\omega_2^2\omega_3^2 - 24\omega_5 v_1^2\omega_2\omega_3^3 - 12\omega_5\omega_2^3\omega_3^3 cs^2 + 6\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 21\omega_5\omega_2^2\omega_3^3)\frac{v_1 v_2}{6\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_y\rho} = (42\omega_5 v_1^2\omega_2^2\omega_3^3 - 36cs^2\omega_5^2\omega_3^3 - 24cs^2\omega_5\omega_2\omega_3^3 - 3\omega_2^3\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^2 + 6cs^2\omega_2^2\omega_3^3 + 12\omega_5\omega_2\omega_3^3 + 42cs^2\omega_5^2\omega_2^2\omega_3^2 - 12\omega_5 v_1^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 - 48cs^2\omega_5^2\omega_2^2\omega_3^3 + 7\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_2^2\omega_3^3 + \omega_5^2\omega_2^3\omega_3^2 + 6\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3^3 + 12\omega_5^2 v_1^2\omega_2\omega_3^2 - 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2 v_1^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - \omega_5^2\omega_2^3\omega_3^3 - 12v_1^2\omega_2^2\omega_3^3 + 6\omega_5 v_1^2\omega_2^3\omega_3^2 - 30\omega_5^2 v_1^2\omega_2\omega_3^3 + 6cs^2\omega_5\omega_2^3\omega_3^2 - 3\omega_5\omega_2^3\omega_3^2 + 6\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2 v_1^2\omega_2^3\omega_3 + 6\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5\omega_2^2\omega_3^3 - 12\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 6\omega_5^2 v_1^2\omega_2^3 + 6\omega_5^2 v_1^2\omega_2^2\omega_3 - 6\omega_5^2\omega_2\omega_3^3 - 12cs^2\omega_5\omega_2^2\omega_3^3 + 78cs^2\omega_5^2\omega_2\omega_3^3 + 6\omega_5\omega_2^2\omega_3^2 - 24\omega_5 v_1^2\omega_2\omega_3^3 + 6\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 21\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 42cs^2\omega_5\omega_2^2\omega_3^3)\frac{v_1 v_2}{6\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_y\rho} = (12\omega_5 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2 cs^2\omega_3^3 - 3\omega_2^3\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^2 + 12\omega_5\omega_2\omega_3^3 + 18\omega_2^3 cs^2\omega_3^3 - 12\omega_5^2\omega_2^2 cs^2\omega_3 - 24\omega_5\omega_2 cs^2\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 + 7\omega_5^2\omega_2^2\omega_3^3 + \omega_5^2\omega_2^3\omega_3^2 + 6\omega_2^2\omega_3^3 - 24\omega_5\omega_2^3 cs^2\omega_3^3 + 36\omega_5^2\omega_2^2 cs^2\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 + 12\omega_5\omega_2^3 cs^2\omega_3^3 - 36\omega_5^2\omega_2^2 cs^2\omega_3^3 + 12\omega_5^2 v_1^2\omega_2\omega_3^3 - 3\omega_5\omega_2^3\omega_3^2 + 6\omega_5^2\omega_2^3 cs^2\omega_3 - 36\omega_2^2 cs^2\omega_3^3 - 6\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2 cs^2\omega_3^3 - 12\omega_5^2 v_1^2\omega_3^3\omega_3 + 6\omega_5\omega_2^3\omega_3^3 + 36\omega_5^2\omega_2 cs^2\omega_3^3 - 6\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 6\omega_5^2 v_1^2\omega_2^3 + 6\omega_5^2 v_1^2\omega_2^2\omega_3 + 6\omega_5^2\omega_2^3 cs^2\omega_3^3 - 24\omega_5\omega_2^2 cs^2\omega_3^3 - 6\omega_5^2\omega_2\omega_3^3 + 6\omega_5\omega_2^2\omega_3^2 - 12\omega_5^2\omega_2^2 cs^2\omega_3^3 + 72\omega_5\omega_2^2 cs^2\omega_3^3 - 24\omega_5 v_1^2\omega_2\omega_3^3 + 6\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 21\omega_5\omega_2^2\omega_3^3)\frac{v_1 v_2}{6\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_y\rho} = (-12\omega_5^2\omega_2^3\omega_3^3 cs^2 - 36\omega_2^2\omega_3^3 cs^2 + 12\omega_5 v_1^2\omega_2^2\omega_3^3 - 3\omega_2^3\omega_3^3 - 3\omega_5^2\omega_2^2\omega_3^2 + 12\omega_5\omega_2\omega_3^3 + 36\omega_5^2\omega_2\omega_3^3 cs^2 - 24\omega_5\omega_2^2\omega_3^3 cs^2 - 6v_1^2\omega_2^3\omega_3^3 + 7\omega_5^2\omega_2^2\omega_3^3 + \omega_5^2\omega_2^3\omega_3^2 + 6\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3 cs^2 + 6\omega_2^2\omega_3^3 cs^2 - \omega_5^2\omega_2^3\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 + 72\omega_5\omega_2^2\omega_3^3 cs^2 - 12\omega_5^2\omega_2\omega_3^3 cs^2 + 12\omega_5^2 v_1^2\omega_2\omega_3^3 - 3\omega_5\omega_2^3\omega_3^2 - 12\omega_5^2\omega_3^3 cs^2 + 12\omega_5\omega_2^3\omega_3^2 cs^2 - 6\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2 v_1^2\omega_3^3\omega_3 + 6\omega_5\omega_2^2\omega_3^3 + 18\omega_2^3\omega_3^3 cs^2 + 36\omega_5^2\omega_2^2\omega_3^3 cs^2 - 6\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 24\omega_5\omega_2\omega_3^3 cs^2 + 6\omega_5^2 v_1^2\omega_2^3 - 24\omega_5\omega_2^2\omega_3^3 cs^2 + 6\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 6\omega_5^2\omega_2^3\omega_3 cs^2 - 36\omega_5^2\omega_2^2\omega_3^3 cs^2 + 6\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 21\omega_5\omega_2^2\omega_3^3)\frac{v_1 v_2}{6\omega_5^2\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y v_1}$ **at** $\frac{\partial^4 v_1}{\partial x_1^3\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_y v_1} = (12 - 56\omega^2 cs^2 - 12\omega^2 v_1^2 - 12v_1^2 + 4\omega^3 cs^2 + 3\omega^3 v_1^2 - 96cs^2 - 18\omega - \omega^3 + 8\omega^2 + 18\omega v_1^2 + 144\omega cs^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_y v_1} = (36\omega_5 v_1^2\omega_2^2\omega_3^3 + 36\omega_5^2\omega_2\omega_3^3 cs^2 - 24\omega_5\omega_2^2\omega_3^3 cs^2 - 6\omega_5^2\omega_2^2\omega_3^2 - 12\omega_5^2\omega_2^3\omega_3^2 cs^2 - 12\omega_2^2\omega_3^3 cs^2 - 24\omega_5 v_1^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 + 2\omega_5^2\omega_2^3\omega_3^2 + 36\omega_5\omega_2^2\omega_3^3 cs^2 - 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2 v_1^2\omega_3^3 - 24\omega_5^2\omega_2\omega_3^2 cs^2 - \omega_5^2\omega_2^3\omega_3^3 - 12v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3 cs^2 + 12\omega_5 v_1^2\omega_2^3\omega_3^2 - 30\omega_5^2 v_1^2\omega_2\omega_3^3 + 4\omega_5^2\omega_2^3\omega_3^2 cs^2 - 6\omega_5\omega_2^3\omega_3^2 + 6\omega_2^3\omega_3^3 cs^2 + 48\omega_5^2\omega_2^2\omega_3^2 cs^2 - 12\omega_5\omega_2\omega_3^3 cs^2 - 18\omega_5^2 v_1^2\omega_2^3\omega_3 + 3\omega_5\omega_2^3\omega_3^3 + 12\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2 v_1^2\omega_3^3 + 12\omega_5\omega_2^3\omega_3^3 cs^2 - 12\omega_5^2\omega_3^3 cs^2 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3 cs^2 - 32\omega_5^2\omega_2^2\omega_3^3 cs^2 + 12\omega_5\omega_2^2\omega_3^3 - 12\omega_5 v_1^2\omega_2\omega_3^3 - 12\omega_5\omega_2^3\omega_3^3 cs^2 - 6\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_y v_1} = (36\omega_5 v_1^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 12cs^2\omega_5\omega_2\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^2 + 6cs^2\omega_2^2\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 24\omega_5 v_1^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_2^2\omega_3^3 + 2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_5^2\omega_2^2\omega_3^3 - 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2 v_1^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - \omega_5^2\omega_2^3\omega_3^3 - 12v_1^2\omega_2^2\omega_3^3 + 12\omega_5\omega_2^3\omega_3^3 - 30\omega_5^2 v_1^2\omega_2\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^3 - 6\omega_5\omega_2^3\omega_3^3 - 18\omega_5^2 v_1^2\omega_2^3\omega_3 + 3\omega_5\omega_2^3\omega_3^3 - 12cs^2\omega_5\omega_2^2\omega_3^3 + 12\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2 v_1^2\omega_3^3 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 24cs^2\omega_5\omega_2^2\omega_3^3 + 36cs^2\omega_5^2\omega_2\omega_3^3 + 12\omega_5\omega_2^2\omega_3^3 - 12\omega_5 v_1^2\omega_2\omega_3^3 - 6\omega_5\omega_2^2\omega_3^3 - 24cs^2\omega_5^2\omega_2\omega_3^3 + 36cs^2\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_y v_1} = (-12\omega_5 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2 cs^2\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^2 + 6\omega_2^3 cs^2\omega_3^3 - 12\omega_5^2\omega_2^2 cs^2\omega_3 - 12\omega_5\omega_2 cs^2\omega_3^3 - 24\omega_5 v_1^2\omega_2^2\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 + 3\omega_5^2\omega_2^2\omega_3^3 + 2\omega_5^2\omega_2^3\omega_3^2 - 12\omega_5\omega_2^3 cs^2\omega_3^3 + 48\omega_5^2\omega_2^2 cs^2\omega_3^2 - 24\omega_5^2 v_1^2\omega_3^3 - \omega_5^2\omega_2^3\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 + 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 12\omega_5\omega_2^3 cs^2\omega_3^3 - 32\omega_5^2\omega_2^2 cs^2\omega_3^3 + 30\omega_5^2 v_1^2\omega_2\omega_3^3 - 6\omega_5\omega_2^3\omega_3^2 - 6\omega_2^3\omega_3^3 cs^2\omega_3 - 12\omega_2^2 cs^2\omega_3^3 - 12\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 24\omega_5^2\omega_2 cs^2\omega_3^3 - 18\omega_5^2 v_1^2\omega_2^3\omega_3 + 3\omega_5\omega_2^3\omega_3^3 + 36\omega_5^2\omega_2 cs^2\omega_3^3 + 12\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2 v_1^2\omega_3^3 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 4\omega_5^2\omega_2^3 cs^2\omega_3^3 - 24\omega_5\omega_2^2 cs^2\omega_3^3 + 12\omega_5\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^3 cs^2\omega_3^3 + 36\omega_5\omega_2^2 cs^2\omega_3^3 + 12\omega_5 v_1^2\omega_2\omega_3^3 - 6\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_y v_1} = (-12\omega_5^2\omega_2^3\omega_3^3 cs^2 - 12\omega_2^2\omega_3^3 cs^2 - 12\omega_5 v_1^2\omega_2^2\omega_3^3 - 6\omega_5^2\omega_2^2\omega_3^2 + 36\omega_5^2\omega_2\omega_3^3 cs^2 - 24\omega_5\omega_2^2\omega_3^3 cs^2 - 24\omega_5 v_1^2\omega_2^2\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 +$

$3\omega_2^2\omega_2^2\omega_3^3+2\omega_5^2\omega_2^3\omega_3^2-12\omega_5^2\omega_2^2\omega_3cs^2-24\omega_5^2v_1^2\omega_3^3+4\omega_5^2\omega_2^3\omega_3^3cs^2-\omega_5^2\omega_2^3\omega_3^3+12v_1^2\omega_2^2\omega_3^3+36\omega_5\omega_2^2\omega_3^3cs^2+12\omega_5v_1^2\omega_2^3\omega_3^2-24\omega_5^2\omega_2\omega_3^2cs^2+30\omega_5^2v_1^2\omega_2\omega_3^3-6\omega_5\omega_2^3\omega_3^2-12\omega_5^2\omega_3^3cs^2+12\omega_5\omega_2^3\omega_3^2cs^2-12\omega_5^2v_1^2\omega_2^2\omega_3^3-18\omega_5^2v_1^2\omega_2^3\omega_3+3\omega_5\omega_2^3\omega_3^3+6\omega_2^3\omega_3^3cs^2+48\omega_5^2\omega_2^3\omega_3^2cs^2+12\omega_5^2v_1^2\omega_2^2\omega_3^2-12\omega_5\omega_2\omega_3^3cs^2+12\omega_5^2v_1^2\omega_2^3+3\omega_5^2v_1^2\omega_2^3\omega_3^3-12\omega_5\omega_2^3\omega_3^3cs^2+12\omega_5\omega_2^2\omega_3^3+12\omega_5v_1^2\omega_2\omega_3^3+6\omega_5^2\omega_2^3\omega_3cs^2-32\omega_5^2\omega_2^2\omega_3^3cs^2-6\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_y v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_1^3\partial x_2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_y v_2}=(36-56\omega^2cs^2-20\omega^2v_1^2-36v_1^2+4\omega^3cs^2+\omega^3v_1^2-96cs^2-54\omega-\omega^3+20\omega^2+54\omega v_1^2+144\omega cs^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_y v_2}=(-36\omega_5\omega_2cs^2+9\omega_5\omega_2^3+6\omega_2^3cs^2-48\omega_5^2cs^2-44\omega_5^2\omega_2^2cs^2-36\omega_5\omega_2^2-36\omega_5v_1^2\omega_2-6\omega_2^3+24\omega_5\omega_2-12\omega_2^2cs^2+48\omega_5v_1^2\omega_2^2+12\omega_2^2-12\omega_5v_1^2\omega_2^3+4\omega_5^2\omega_2^3cs^2-8\omega_5^2v_1^2\omega_2^2-12\omega_5^2\omega_2-12\omega_5\omega_2^3cs^2+\omega_5^2v_1^2\omega_2^3+11\omega_5^2\omega_2^2+90\omega_5^2\omega_2cs^2+6v_1^2\omega_2^3-12v_1^2\omega_2^2-\omega_5^2\omega_2^3+48\omega_5\omega_2^2cs^2+12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_y v_2}=(-12cs^2\omega_5\omega_2^3+9\omega_5\omega_2^3+48cs^2\omega_5\omega_2^2-36\omega_5\omega_2^2-36\omega_5v_1^2\omega_2-6\omega_2^3+24\omega_5\omega_2-36cs^2\omega_5\omega_2+48\omega_5v_1^2\omega_2^2+12\omega_2^2-12\omega_5v_1^2\omega_2^3-8\omega_5^2v_1^2\omega_2^2+90cs^2\omega_5^2\omega_2-12\omega_5^2\omega_2+\omega_5^2v_1^2\omega_2^3+11\omega_5^2\omega_2^2-44cs^2\omega_5^2\omega_2^2+6v_1^2\omega_2^3+6cs^2\omega_2^3-48cs^2\omega_5^2-12v_1^2\omega_2^2-\omega_5^2\omega_2^3+4cs^2\omega_5^2\omega_2^3+12\omega_5^2v_1^2-12cs^2\omega_2^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_y v_2}=(18\omega_5^2\omega_2cs^2+9\omega_5\omega_2^3-36\omega_5\omega_2^2-60\omega_5v_1^2\omega_2+96\omega_5\omega_2^2cs^2-6\omega_2^3+24\omega_5\omega_2+48\omega_5v_1^2\omega_2^2+12\omega_2^2-30\omega_5\omega_2^3cs^2-6\omega_5v_1^2\omega_2^3-60\omega_2^2cs^2-14\omega_5^2v_1^2\omega_2^2-12\omega_5^2\omega_2+\omega_5^2v_1^2\omega_2^3+4\omega_5^2\omega_2^3cs^2+11\omega_5^2\omega_2^2+30\omega_2^3cs^2-36\omega_5\omega_2cs^2-6v_1^2\omega_2^3+12v_1^2\omega_2^2+12\omega_5^2v_1^2\omega_2-26\omega_5^2\omega_2^2cs^2-\omega_5^2\omega_2^3+12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_y v_2}=$
$(-26\omega_5^2\omega_2^2cs^2+9\omega_5\omega_2^3-36\omega_5\omega_2^2-60\omega_5v_1^2\omega_2+30\omega_2^3cs^2-36\omega_5\omega_2cs^2-6\omega_2^3+24\omega_5\omega_2+48\omega_5v_1^2\omega_2^2+4\omega_5^2\omega_2^3cs^2+12\omega_2^2-60\omega_2^2cs^2-6\omega_5v_1^2\omega_2^3-30\omega_5\omega_2^3cs^2-14\omega_5^2v_1^2\omega_2^2-12\omega_5^2\omega_2+\omega_5^2v_1^2\omega_2^3+11\omega_5^2\omega_2^2+96\omega_5\omega_2^2cs^2-6v_1^2\omega_2^3+18\omega_5^2\omega_2cs^2+12v_1^2\omega_2^2+12\omega_5^2v_1^2\omega_2-\omega_5^2\omega_2^3+12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}$ **at** $\frac{\partial^4 v_2}{\partial t^2\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}=(-2+3\omega-\omega^2)\frac{3v_2\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}=(-\omega_6^2\omega_3^2-\omega_6^2\omega_3-4\omega_3^2-4\omega_6\omega_3+2\omega_3^3-2\omega_6\omega_3^3+2\omega_6^2+8\omega_6\omega_3^2)\frac{v_2\rho}{2\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}=C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}=(-2-\omega_3^2+3\omega_3)\frac{3v_2\rho}{2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}=C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_y^2 v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}$ **at** $\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}=(34\omega^2cs^2-2\omega^2v_2^2+\omega^3v_2^2-2\omega^3cs^2+60cs^2-90\omega cs^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}=(-30\omega_2v_2^2\omega_6\omega_3^2+12\omega_2\omega_6^2cs^2-6\omega_6\omega_3^3cs^2-30\omega_2\omega_6\omega_3^2cs^2+9\omega_2v_2^2\omega_6\omega_3^2-30\omega_2\omega_6^2\omega_3cs^2-24\omega_2v_2^2\omega_6^2+12v_2^2\omega_6\omega_3^2-6\omega_2v_2^2\omega_3^3+9\omega_2\omega_6\omega_3^3cs^2+12\omega_6\omega_3^2cs^2+12\omega_2v_2^2\omega_3^2-6v_2^2\omega_6\omega_3^3+12\omega_2v_2^2\omega_6\omega_3+12\omega_6^2\omega_3cs^2-2\omega_2\omega_6^2\omega_3^2cs^2-v_2^2\omega_6^2\omega_3^2+36\omega_2v_2^2\omega_6^2\omega_3-18\omega_6^2\omega_3^2cs^2+6v_2^2\omega_6^2\omega_3^2+12\omega_2\omega_3^2cs^2+3\omega_6^2\omega_3^3cs^2+\omega_2v_2^2\omega_6^2\omega_3^2-12v_2^2\omega_6^2\omega_3+22\omega_2\omega_6^2\omega_3^2cs^2-10\omega_2v_2^2\omega_6^2\omega_3^2-6\omega_2\omega_3^3cs^2+12\omega_2\omega_6\omega_3cs^2)\frac{\rho}{12\omega_2\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}=(-30\omega_2v_2^2\omega_6\omega_3^2-2cs^2\omega_2\omega_6^2\omega_3^3-18cs^2\omega_6^2\omega_3^2+9\omega_2v_2^2\omega_6\omega_3^3+3cs^2\omega_6^2\omega_3^3+22cs^2\omega_2\omega_6^2\omega_3^2-24\omega_2v_2^2\omega_6^2+12v_2^2\omega_6\omega_3^2-6\omega_2v_2^2\omega_3^3-30cs^2\omega_2\omega_6^2\omega_3+12\omega_2v_2^2\omega_3^2-6v_2^2\omega_6\omega_3^3+12cs^2\omega_6^2\omega_3+12\omega_2v_2^2\omega_6\omega_3+12cs^2\omega_2\omega_3^2-v_2^2\omega_6^2\omega_3^3+36\omega_2v_2^2\omega_6^2\omega_3+6v_2^2\omega_6^2\omega_3^2-6cs^2\omega_2\omega_3^3+12cs^2\omega_2\omega_6\omega_3+\omega_2v_2^2\omega_6^2\omega_3^3+12cs^2\omega_2\omega_6^2-12v_2^2\omega_6^2\omega_3-6cs^2\omega_6\omega_3^3-30cs^2\omega_2\omega_6\omega_3^2-10\omega_2v_2^2\omega_6^2\omega_3^2+9cs^2\omega_2\omega_6\omega_3^3+12cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_2\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}=(30\omega_2v_2^2\omega_6\omega_3^2+9\omega_2cs^2\omega_6\omega_3^3-30\omega_2cs^2\omega_6\omega_3^2+12\omega_2cs^2\omega_6^2-9\omega_2v_2^2\omega_6\omega_3^3+24\omega_2v_2^2\omega_6^2-12v_2^2\omega_6\omega_3^2+6\omega_2v_2^2\omega_3^3-6cs^2\omega_6\omega_3^3+12\omega_2cs^2\omega_6\omega_3-6\omega_2cs^2\omega_3^3+12cs^2\omega_6\omega_3^2-12\omega_2v_2^2\omega_3^2+6v_2^2\omega_6\omega_3^3-12\omega_2v_2^2\omega_6\omega_3+12\omega_2cs^2\omega_3^2-18cs^2\omega_6^2\omega_3^2-v_2^2\omega_6^2\omega_3^3-36\omega_2v_2^2\omega_6^2\omega_3-6v_2^2\omega_6^2\omega_3^2+3cs^2\omega_6^2\omega_3^3-30\omega_2cs^2\omega_6^2\omega_3+22\omega_2cs^2\omega_6^2\omega_3^2+\omega_2v_2^2\omega_6^2\omega_3^3+12v_2^2\omega_6^2\omega_3+8\omega_2v_2^2\omega_6^2\omega_3^2-2\omega_2cs^2\omega_6^2\omega_3^3+12cs^2\omega_6^2\omega_3)\frac{\rho}{12\omega_2\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2 v_1}=(30\omega_2v_2^2\omega_6\omega_3^2-30\omega_2\omega_6^2\omega_3cs^2+12\omega_2\omega_6^2cs^2-6\omega_6\omega_3^3cs^2-9\omega_2v_2^2\omega_6\omega_3^3-30\omega_2\omega_6\omega_3^2cs^2+24\omega_2v_2^2\omega_6^2-12v_2^2\omega_6\omega_3^2+6\omega_2v_2^2\omega_3^3+12\omega_6^2\omega_3cs^2-12\omega_2v_2^2\omega_3^2+6v_2^2\omega_6\omega_3^3+9\omega_2\omega_6\omega_3^3cs^2-12\omega_2v_2^2\omega_6\omega_3+12\omega_6\omega_3^2cs^2-v_2^2\omega_6^2\omega_3^3+12\omega_2\omega_3^2cs^2-36\omega_2v_2^2\omega_6^2\omega_3-2\omega_2\omega_6^2\omega_3^3cs^2-$

$6v_2^2\omega_6^2\omega_3^2 - 18\omega_6^2\omega_3^2cs^2 + \omega_2v_2^2\omega_6^2\omega_3^3 - 6\omega_2\omega_3^3cs^2 + 12\omega_2\omega_6\omega_3cs^2 + 12v_2^2\omega_6^2\omega_3 + 3\omega_6^2\omega_3^3cs^2 + 8\omega_2v_2^2\omega_6^2\omega_3^2 + 22\omega_2\omega_6^2\omega_3^2cs^2)\frac{\rho}{12\omega_2\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2}$ **at** $\frac{\partial^4v_2}{\partial t\partial x_1\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2} = (-24 + 36\omega + \omega^3 - 14\omega^2)\frac{v_1v_2\rho}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2} = (12\omega_2^2\omega_6\omega_3^2 + 3\omega_2^3\omega_3^3 - 12\omega_2^3\omega_6 - 6\omega_2^3\omega_3^2 - 7\omega_2^2\omega_6\omega_3^3 - 6\omega_2^2\omega_3^3 - 12\omega_2^2\omega_6\omega_3 + 12\omega_2^2\omega_3^2 + \omega_2^3\omega_6\omega_3^3 - 10\omega_2^3\omega_6\omega_3^2 + 24\omega_2^3\omega_6\omega_3 - 6\omega_6\omega_3^3 - 6\omega_2\omega_6\omega_3^2 + 12\omega_2\omega_6\omega_3^3)\frac{v_1v_2\rho}{6\omega_2^3\omega_6\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2} = (\omega_2^3\omega_3^3 - 7\omega_2^3\omega_3^2 - 7\omega_2^2\omega_3^3 + 18\omega_2^2\omega_3 - 12\omega_2^3 + 6\omega_2^2\omega_3^2 - 6\omega_2\omega_3^2 + 12\omega_2\omega_3^3 - 6\omega_3^3)\frac{v_1v_2\rho}{6\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y^2v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1^2\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho} = (-14\omega^2v_1^2cs^2 + 34\omega^2v_1^2v_2^2 - 24\omega cs^4 - 14\omega^2cs^2v_2^2 - 24cs^2v_2^2 - \omega^3cs^4 + 36\omega cs^2v_2^2 - 3\omega^3v_1^2v_2^2 + \omega^3v_1^2cs^2 + 16cs^4 + 36\omega v_1^2cs^2 + 10\omega^2cs^4 - 84\omega v_1^2v_2^2 + \omega^3cs^2v_2^2 - 24v_1^2cs^2 + 56v_1^2v_2^2)\frac{1}{4\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho} = (-4\omega_2^2v_2^2\omega_6^2\omega_3^3cs^2 - 8\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3cs^2 - 38\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3 - 3\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 + 2\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^2 + 4\omega_5^2\omega_2^2\omega_6^2\omega_3^3cs^4 + \omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^3cs^2 - 2\omega_5\omega_2^3\omega_6^2\omega_3^3cs^4 - 36\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - 2\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^3cs^2 - 2\omega_5\omega_2^2\omega_6^2\omega_3^3cs^4 + 2\omega_5^2v_1^2\omega_2^3\omega_3^3cs^2 + 12\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^2cs^2 + 4\omega_5^2\omega_2^3\omega_6^2\omega_3^3cs^4 - 2\omega_5v_1^2\omega_2^3\omega_6^2\omega_3^3cs^2 + 4\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^3cs^2 + 20\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 20\omega_5^2v_1^2v_2^2\omega_6^2\omega_3^3 - 4\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 - 3\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 4\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^2cs^2 - 12\omega_5^2\omega_2^2\omega_6^2\omega_3^3cs^4 + \omega_5\omega_2^3\omega_6^2\omega_3^3cs^4 - 8\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^3cs^2 + 10\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 2\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 + \omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 - 4\omega_5^2v_1^2\omega_2^3\omega_6\omega_3cs^2 + 20\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3 - 4\omega_5^2v_2^2\omega_6^2\omega_3^3cs^2 + \omega_5v_1^2\omega_2^3\omega_6^2\omega_3^3cs^2 - 2\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^3cs^2 + 20\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3cs^2 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3cs^4 + 4\omega_5\omega_2^2\omega_6^2\omega_3^3cs^4 - \omega_5^2\omega_2^3\omega_6^2\omega_3^3cs^4 - 4\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 + 2\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 + 10\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^2cs^2 + 20\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^2 + 4\omega_5^2\omega_2^3\omega_6\omega_3^2cs^4 - 4\omega_5\omega_2^2v_2^2\omega_6^2\omega_3^2cs^2 + 10\omega_5^2\omega_2v_2^2\omega_6^2\omega_3^3cs^2 - 2\omega_5^2\omega_2\omega_6^2\omega_3^3cs^4 - 4v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 10\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^2 + 10\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3cs^2 - 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 + \omega_5^2\omega_2^3v_2^2\omega_6\omega_3^3cs^2 - 38\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 + 4\omega_5^2\omega_2^2\omega_6^2\omega_3cs^4 + \omega_5^2\omega_2^3\omega_6\omega_3^3cs^4 + 2\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^3cs^2 - 8\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^3cs^2 - 8\omega_5^2v_1^2\omega_2\omega_6^2\omega_3^2cs^2 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 - 2\omega_5^2\omega_2^3\omega_6^2\omega_3cs^4 - 4\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3cs^2 - 4\omega_5v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3\omega_6^2cs^2 - 4\omega_5^2\omega_2v_2^2\omega_6^2\omega_3^3cs^2 + 4\omega_5^2\omega_2\omega_6^2\omega_3^3cs^4 + 2\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 - 3\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^3cs^2 + 2\omega_5^2v_2^2\omega_6^2\omega_3^3cs^2 + 10\omega_5\omega_2^2v_2^2\omega_6^2\omega_3^3cs^2 - 2\omega_5^2\omega_2^2\omega_6\omega_3^3cs^4 + 4\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3cs^2 + 4\omega_5^2v_1^2\omega_2\omega_6^2\omega_3^2cs^2 - 4\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^3 + 12\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^2cs^2 + 2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2\omega_5^2\omega_2^3\omega_6\omega_3^3cs^4 - 4\omega_5\omega_2v_2^2\omega_6^2\omega_3^3cs^2 - 4\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^2cs^2 - 2\omega_5^2\omega_2^3v_2^2\omega_6\omega_3^2cs^2 + 20\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2 - 4\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^2)\frac{1}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho} = (-38\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3 + cs^4\omega_5\omega_2^3\omega_6^2\omega_3^3 - 12cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^3 + 10cs^2\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^3 + 10cs^2\omega_5^2\omega_2v_2^2\omega_6^2\omega_3^3 + 2\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^2 - 36\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 + cs^2\omega_5^2\omega_2^3v_2^2\omega_6\omega_3^3 - 4cs^2\omega_5^2\omega_2\omega_2v_2^2\omega_6^2\omega_3^3 - 3cs^2\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^3 - 2cs^4\omega_5\omega_2^3\omega_6^2\omega_3^3 - 4cs^2\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3^3 + 2cs^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2cs^2\omega_5^2\omega_2^3v_2^2\omega_6\omega_3^2 + 20\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 20\omega_5^2v_1^2v_2^2\omega_6^2\omega_3^3 - 4cs^2\omega_5\omega_2v_2^2\omega_6^2\omega_3^3 - 3\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2cs^2\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^3 + 10\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^3\omega_6\omega_3^2 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^3 - 4cs^2\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 4cs^2\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^2 - 4cs^2\omega_5^2v_2^2\omega_6^2\omega_3^3 + 20\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3 - 2cs^2\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6^2\omega_3 - 4cs^2\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^3 + 20\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 4cs^2\omega_5^2v_1^2\omega_2^3\omega_6\omega_3 + cs^4\omega_5^2\omega_2^3\omega_6\omega_3^3 - 4\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 2\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 + 20\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 4cs^2\omega_5\omega_2^2v_2^2\omega_6^2\omega_3^3 - 4v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 2cs^2\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^3 + 10\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^2 - 8cs^2\omega_5^2v_1^2\omega_2\omega_6^2\omega_3^2 - 8cs^2\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^3 + 4cs^4\omega_5\omega_2^2\omega_6^2\omega_3^3 + 10cs^2\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3 + 4cs^2\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3 + 10cs^2\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - 38\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 4cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3^3 - 2cs^4\omega_5\omega_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - 4cs^2\omega_5^2v_1^2\omega_2^3\omega_6^2 + 4cs^2\omega_5^2v_1^2\omega_2\omega_6^2\omega_3^3 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 - 4cs^2\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^3 + cs^2\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^3\omega_6^2\omega_3 - 3cs^2\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^3 - 8cs^2\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3 + 4cs^4\omega_5^2\omega_2\omega_6^2\omega_3^3 - 4\omega_5v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2^3\omega_6\omega_3^3 + 2cs^2\omega_5^2v_1^2\omega_2^3\omega_3^3 + 2\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^3 - 4cs^2\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2cs^2\omega_5v_1^2\omega_2^3\omega_6^2\omega_3^3 - 4cs^2\omega_5^2v_1^2\omega_2^3\omega_3^3 + 4cs^4\omega_5^2\omega_2^2\omega_6\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 + 2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 2cs^2\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2cs^4\omega_5^2\omega_2\omega_6^2\omega_3^3 - 8cs^2\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^3 + cs^2\omega_5v_1^2\omega_2^3\omega_6^2\omega_3^3 + 20\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2 + cs^2\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^2)\frac{1}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho} = (-14\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3 - 4\omega_5^2v_2^2cs^2\omega_6^2\omega_3^3 - 2\omega_5^2\omega_2^2cs^4\omega_6\omega_3^3 + \omega_5^2\omega_2^3v_2^2cs^2\omega_6^2\omega_3^3 - 2\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 2\omega_5^2v_1^2\omega_2^2cs^2\omega_6^2\omega_3^3 - 28\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - \omega_5v_1^2\omega_2^3cs^2\omega_6^2\omega_3^3 - 4\omega_5^2\omega_2^2v_2^2cs^2\omega_6\omega_3^2 + 4\omega_5^2\omega_2^2cs^4\omega_6\omega_3^2 - 2\omega_5^2\omega_2^3v_2^2cs^2\omega_6^2\omega_3^2 + 10\omega_5^2v_1^2\omega_2^3cs^2\omega_6^2\omega_3 + 2\omega_5v_1^2\omega_2^3cs^2\omega_6^2\omega_3^2 + 2\omega_5^2\omega_2^2v_2^2cs^2\omega_6\omega_3^3 + 14\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 4\omega_5^2v_1^2v_2^2\omega_6^2\omega_3^3 + 8\omega_5^2v_1^2\omega_2^2cs^2\omega_6^2\omega_3^3 + 3\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 2\omega_5\omega_2^3v_2^2cs^2\omega_6^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^2cs^2\omega_6^2\omega_3 - 2\omega_5^2\omega_2^2cs^4\omega_6\omega_3^3 - 10\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - 8\omega_5^2v_1^2\omega_2^3cs^2\omega_6^2\omega_3^3 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 4\omega_5v_1^2\omega_2^2cs^2\omega_6^2\omega_3^3 + 4\omega_5^2\omega_2cs^4\omega_6^2\omega_3^3 + \omega_5^2\omega_2^3cs^4\omega_6\omega_3^3 + 12\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3 - 3\omega_5\omega_2^3v_2^2cs^2\omega_6^2\omega_3^3 - 4\omega_5^2v_2^2cs^2\omega_6^2\omega_3^3 + 2\omega_5v_1^2\omega_2^2cs^2\omega_6^2\omega_3^3 - 2\omega_5^2\omega_2cs^4\omega_6^2\omega_3^3 + 14\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^2 + \omega_5^2v_1^2\omega_2^3cs^2\omega_6^2\omega_3^3 + 4\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - 2\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 - 4\omega_5\omega_2v_2^2cs^2\omega_6^2\omega_3^3 + 12\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - \omega_5^2\omega_2^3cs^4\omega_6^2\omega_3^3 + 4v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 2\omega_5^2v_1^2\omega_2^3cs^2\omega_3^3 - 10\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^2 - 2\omega_5\omega_2^3cs^4\omega_6^2\omega_3^2 - 4\omega_5\omega_2^2v_2^2cs^2\omega_6^2\omega_3^2 - 3\omega_5^2v_1^2\omega_2^3cs^2\omega_6\omega_3^3 + 4\omega_5^2\omega_2^3cs^4\omega_6^2\omega_3^3 + 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 - 14\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 + 10\omega_5\omega_2^2v_2^2cs^2\omega_6^2\omega_3^3 + 10\omega_5^2v_1^2\omega_2^3cs^2\omega_6\omega_3^3 + 4\omega_5^2\omega_2^2cs^4\omega_6^2\omega_3 + \omega_5\omega_2^3cs^4\omega_6^2\omega_3^3 + 2\omega_2^3v_2^2cs^2\omega_6^2\omega_3^3 + 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3cs^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3cs^2\omega_6\omega_3 + 2\omega_5^2\omega_2^3v_2^2cs^2\omega_6\omega_3^2 - 12\omega_5^2\omega_2^2cs^4\omega_6^2\omega_3^2 - 4\omega_5^2\omega_2v_2^2cs^2\omega_6^2\omega_3^2 + 4\omega_5v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 2\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^3 - 8\omega_5^2\omega_2^2v_2^2cs^2\omega_6^2\omega_3^3 -$

$2\omega_5\omega_2^2cs^4\omega_6^2\omega_3^3 - 2\omega_5^2\omega_2^3cs^4\omega_6^2\omega_3 - 4\omega_5^2v_1^2\omega_2^2cs^2\omega_6\omega_3^2 + 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3 - 2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 + 10\omega_5^2\omega_2v_2^2cs^2\omega_6^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3cs^2\omega_6^2 - \omega_5^2\omega_2^3v_2^2cs^2\omega_6\omega_3^2 + 4\omega_5^2\omega_2^2cs^4\omega_6^2\omega_3^3 + 2\omega_5^2v_1^2\omega_2^2cs^2\omega_6\omega_3^3 + 4\omega_5\omega_2^2cs^4\omega_6^2\omega_3^2 + 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2 + 8\omega_5^2\omega_2^2v_2^2cs^2\omega_6^2\omega_3^2 + 4\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^2)\frac{1}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y^2\rho} = (4\omega_5^2\omega_2^3\omega_6^2\omega_3^2cs^4 - 14\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3 - 2\omega_5\omega_2^2\omega_6^2\omega_3^3cs^4 + 8\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^2cs^2 + 2\omega_5^2v_1^2\omega_2^3\omega_3^3cs^2 - 4\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^2cs^2 + 2\omega_5v_1^2\omega_2^3\omega_6^2\omega_3^2cs^2 - 2\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^2 - 28\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - 2\omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^2cs^2 - 3\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 - 4\omega_5^2v_2^2\omega_6^2\omega_3^2cs^2 + \omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^2cs^2 - 2\omega_5\omega_2^3\omega_6^2\omega_3^2cs^4 + 14\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 4\omega_5^2\omega_2^2\omega_6^2\omega_3^2cs^4 + 2\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^3cs^2 + 4\omega_5^2v_1^2v_2^2\omega_6^2\omega_3^3 + 3\omega_5v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - 4\omega_5^2v_1^2\omega_2^3\omega_6\omega_3cs^2 + \omega_5^2\omega_2^3v_2^2\omega_6^2\omega_3^3cs^2 - 4\omega_5^2v_2^2\omega_6^2\omega_3^3cs^2 + 2\omega_5^2\omega_2^2v_2^2\omega_6\omega_3^3cs^2 - 10\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 - \omega_5v_1^2\omega_2^3\omega_6^2\omega_3^3cs^2 - 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^3 - \omega_5^2\omega_2^3\omega_6^2\omega_3^3cs^4 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3cs^2 - 2\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^3cs^4 + 4\omega_5\omega_2^2\omega_6^2\omega_3^3cs^4 - 4\omega_5v_1^2\omega_2^2\omega_6^2\omega_3^3cs^2 + \omega_5\omega_2^3\omega_6^2\omega_3^3cs^4 + 12\omega_5^2v_1^2\omega_2^2v_2^2\omega_6^2\omega_3 - 8\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^2cs^2 - 12\omega_5^2\omega_2^2\omega_6^2\omega_3^2cs^4 + 14\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2\omega_3^2 + 2\omega_5\omega_2^3v_2^2\omega_6^2\omega_3^2cs^2 + 4\omega_5v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^2 - 2\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^3 + 12\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^2 + 4\omega_5^2\omega_2^2\omega_6^2\omega_3cs^4 - \omega_5^2\omega_2^3v_2^2\omega_6\omega_3^3cs^2 + 10\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3cs^2 + 4v_1^2\omega_2^2v_2^2\omega_6^2\omega_3^3 + 2\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^3cs^2 - 10\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^2 + \omega_5^2\omega_2^3\omega_6\omega_3^3cs^4 - 8\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^3cs^2 + 4\omega_5^2\omega_2^2\omega_6\omega_3^2cs^4 - 4\omega_5\omega_2^2v_2^2\omega_6^2\omega_3^2cs^2 + 10\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^2cs^2 + 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_3^2 + 10\omega_5^2\omega_2v_2^2\omega_6^2\omega_3^3cs^2 - 14\omega_5^2v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 2\omega_5^2\omega_2\omega_6^2\omega_3^3cs^4 + 3\omega_5^2v_1^2\omega_2^3v_2^2\omega_6\omega_3^3 + 8\omega_5^2\omega_2^2v_2^2\omega_6^2\omega_3^2cs^2 - 4\omega_5^2v_1^2\omega_2^2\omega_6\omega_3^2cs^2 + 4\omega_5v_1^2\omega_2v_2^2\omega_6^2\omega_3^3 - 4\omega_5\omega_2v_2^2\omega_6^2\omega_3^3cs^2 - 2\omega_5^2\omega_2^3\omega_6\omega_3^2cs^4 + 2\omega_5^2\omega_2^3v_2^2\omega_6\omega_3^2cs^2 - 2\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^3 - 4\omega_5^2v_1^2\omega_2^2\omega_6^2\omega_3^2cs^2 + 4\omega_5^2v_1^2\omega_2^3\omega_6^2\omega_3^2 - 2\omega_5^2\omega_2^3\omega_6^2\omega_3cs^4 - 4\omega_5^2v_1^2\omega_2^3\omega_6^2cs^2 - 4\omega_5^2\omega_2v_2^2\omega_6^2\omega_3^2cs^2 + 4\omega_5^2\omega_2\omega_6^2\omega_3^2cs^4 + 4\omega_5^2v_1^2\omega_2^3v_2^2\omega_6^2 + 10\omega_5\omega_2^2v_2^2\omega_6^2\omega_3^2cs^2 - 2\omega_5^2\omega_2^2\omega_6\omega_3^3cs^4 + 4\omega_5^2v_1^2\omega_2^2v_2^2\omega_6\omega_3^2 - 3\omega_5^2v_1^2\omega_2^3\omega_6\omega_3^3cs^2 + 2\omega_2^2v_2^2\omega_6^2\omega_3^3cs^2)\frac{1}{4\omega_5^2\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1}$ **at** $\frac{\partial^4v_1}{\partial x_1^2\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1} = (-26\omega^2cs^2 + 50\omega^2v_2^2 - 4\omega^3v_2^2 + \omega^3cs^2 - 48cs^2 + 84v_2^2 + 72\omega cs^2 - 126\omega v_2^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1} =$
$(-12\omega_2^3\omega_6\omega_3cs^2 + 24\omega_2^2v_2^2\omega_6^2\omega_3 + 34\omega_2^3v_2^2\omega_6^2\omega_3^2 - 6\omega_2^2\omega_6^2\omega_3^3cs^2 - 12\omega_2^3v_2^2\omega_3^2 - 14\omega_2^3\omega_6^2\omega_3^2cs^2 + 6\omega_2^3v_2^2\omega_3^3 - 4\omega_2^3v_2^2\omega_6^2\omega_3^3 + 12\omega_2^2\omega_6^2\omega_3^2cs^2 + 48\omega_2^3v_2^2\omega_6^2 + 22\omega_2^2v_2^2\omega_6^2\omega_3^3 - 78\omega_2^3v_2^2\omega_6^2\omega_3 + \omega_2^3\omega_6^2\omega_3^3cs^2 - 48\omega_2^2v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3\omega_6^2cs^2 - 12\omega_2^3v_2^2\omega_6\omega_3 + 6\omega_2\omega_6^2\omega_3^3cs^2 + 12v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_3^3cs^2 - 6\omega_2^3\omega_6\omega_3^3cs^2 - 30\omega_2v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3\omega_3^3cs^2 + 24\omega_2^3\omega_6^2\omega_3cs^2 - 6\omega_2^3v_2^2\omega_6\omega_3^3 - 12\omega_2\omega_6^2\omega_3^3cs^2 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 24\omega_2^3\omega_6\omega_3^2cs^2 + 24\omega_2^3v_2^2\omega_6\omega_3^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1} = (24\omega_2^2v_2^2\omega_6^2\omega_3 + 34\omega_2^3v_2^2\omega_6^2\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_2^3v_2^2\omega_3^2 + 24cs^2\omega_2^3\omega_6^2\omega_3 + 6\omega_2^3v_2^2\omega_3^3 - 12cs^2\omega_2^3\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 4\omega_2^3v_2^2\omega_6^2\omega_3^3 - 14cs^2\omega_2^3\omega_6^2\omega_3^2 + 48\omega_2^3v_2^2\omega_6^2 + 22\omega_2^2v_2^2\omega_6^2\omega_3^3 - 78\omega_2^3v_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6^2 + cs^2\omega_2^3\omega_6^2\omega_3^3 - 48\omega_2^2v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3v_2^2\omega_6\omega_3 - 6cs^2\omega_2^3\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3^3 + 24cs^2\omega_2^3\omega_6\omega_3^2 - 30\omega_2v_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 6cs^2\omega_2^2\omega_6^2\omega_3^3 - 6\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 12cs^2\omega_2^2\omega_6^2\omega_3^2 + 24\omega_2^3v_2^2\omega_6\omega_3^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1} = (-12\omega_2^3cs^2\omega_3^2 + 24\omega_2^2v_2^2\omega_6^2\omega_3 + 22\omega_2^3v_2^2\omega_6^2\omega_3^2 + \omega_2^3cs^2\omega_6^2\omega_3^3 + 12\omega_2^3v_2^2\omega_3^2 + 6\omega_2^3cs^2\omega_3^3 - 6\omega_2^3v_2^2\omega_3^3 - 14\omega_2^3cs^2\omega_6^2\omega_3^2 - 4\omega_2^3v_2^2\omega_6^2\omega_3^3 + 24\omega_2^3cs^2\omega_6^2\omega_3 + 22\omega_2^2v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3cs^2\omega_6^2 + 12\omega_2^2cs^2\omega_6^2\omega_3^2 - 18\omega_2^3v_2^2\omega_6^2\omega_3 - 6\omega_2^2cs^2\omega_6^2\omega_3^3 - 48\omega_2^2v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3cs^2\omega_6\omega_3 - 12\omega_2cs^2\omega_6^2\omega_3^3 - 30\omega_2v_2^2\omega_6^2\omega_3^3 + 24\omega_2^3cs^2\omega_6\omega_3^2 + 6\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 6\omega_2cs^2\omega_6^2\omega_3^3 - 24\omega_2^3v_2^2\omega_6\omega_3^2 - 6\omega_2^3cs^2\omega_6\omega_3^3)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_1} = (-14\omega_2^3\omega_6^2\omega_3^2cs^2 + 24\omega_2^2v_2^2\omega_6^2\omega_3 + 22\omega_2^3v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_3^2 - 12\omega_2^3\omega_6\omega_3cs^2 - 6\omega_2^3v_2^2\omega_3^3 - 6\omega_2^2\omega_6^2\omega_3^3cs^2 - 4\omega_2^3v_2^2\omega_6^2\omega_3^3 + 22\omega_2^2v_2^2\omega_6^2\omega_3^3 + \omega_2^3\omega_6^2\omega_3^3cs^2 - 12\omega_2^3\omega_6^2cs^2 + 12\omega_2^2cs^2\omega_6^2\omega_3^2 - 12\omega_2^3cs^2\omega_6^2 + 12\omega_2^2cs^2\omega_6^2\omega_3^2 - 18\omega_2^3v_2^2\omega_6^2\omega_3 - 6\omega_2^2cs^2\omega_6^2\omega_3^3 - 48\omega_2^2v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3^3 - 6\omega_2^3\omega_6\omega_3^3cs^2 + 6\omega_2\omega_6^2\omega_3^3cs^2 + 6\omega_2^3\omega_3^3cs^2 + 24\omega_2^3\omega_6\omega_3^2cs^2 - 30\omega_2v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 24\omega_2^3\omega_6^2\omega_3cs^2 - 12\omega_2^3\omega_3^3cs^2 - 24\omega_2^3v_2^2\omega_6\omega_3^2 - 12\omega_2\omega_6^2\omega_3^3cs^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y^2v_2}$ **at** $\frac{\partial^4v_2}{\partial x_1^2\partial x_2^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_2} = (-26\omega^2cs^2 + 50\omega^2v_1^2 + 84v_1^2 + \omega^3cs^2 - 4\omega^3v_1^2 - 48cs^2 - 126\omega v_1^2 + 72\omega cs^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_2} = (24\omega_5v_1^2\omega_2^2\omega_3^3 + 24\omega_5^2\omega_2\omega_3^3cs^2 - 6\omega_5^2\omega_2^3\omega_3^2cs^2 - 12\omega_2^2\omega_3^3cs^2 + 6v_1^2\omega_2^3\omega_3^3 + 24\omega_5\omega_2^2\omega_3^3cs^2 + 24\omega_5^2v_1^2\omega_2\omega_3^2 - 6\omega_5v_1^2\omega_2^3\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 - 12v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3cs^2 - 78\omega_5^2v_1^2\omega_2\omega_3^3 + \omega_5^2\omega_3^3\omega_3^3cs^2 + 6\omega_2^3\omega_3^3cs^2 + 12\omega_5^2\omega_2^2\omega_3^2cs^2 + 34\omega_5^2v_1^2\omega_2^2\omega_3^3 - 12\omega_5\omega_2\omega_3^3cs^2 - 30\omega_5^2v_1^2\omega_2^3\omega_3 - 48\omega_5^2v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2v_1^2\omega_2^3 - 12\omega_5^2\omega_3^3cs^2 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3cs^2 + 24\omega_5^2v_1^2\omega_2^2\omega_3 - 14\omega_5^2\omega_2^2\omega_3^3cs^2 - 12\omega_5v_1^2\omega_2\omega_3^3 - 6\omega_5\omega_2^3\omega_3^3cs^2 + 22\omega_5^2v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_2} = (24\omega_5v_1^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 12cs^2\omega_5\omega_2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 + 12cs^2\omega_5^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 - 14cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_2^2\omega_3^3 - 6cs^2\omega_5^2\omega_2^3\omega_3^3 + 24\omega_5^2v_1^2\omega_2\omega_3^2 - 6\omega_5v_1^2\omega_2^3\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 + cs^2\omega_5^2\omega_3^3\omega_3^3 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 12v_1^2\omega_2^2\omega_3^3 - 78\omega_5^2v_1^2\omega_2\omega_3^3 + 34\omega_5^2v_1^2\omega_2^2\omega_3^3 - 30\omega_5^2v_1^2\omega_2^3\omega_3 - 6cs^2\omega_5\omega_2^2\omega_3^3 - 48\omega_5^2v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2v_1^2\omega_2^3 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2v_1^2\omega_2^2\omega_3 + 24cs^2\omega_5^2\omega_2\omega_3^3 - 12\omega_5v_1^2\omega_2\omega_3^3 + 22\omega_5^2v_1^2\omega_2^3\omega_3^2 + 24cs^2\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y^2v_2} =$
$(-24\omega_5v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2cs^2\omega_3^3 + 6\omega_2^3cs^2\omega_3^3 - 12\omega_5^2\omega_2^2cs^2\omega_3 - 12\omega_5\omega_2cs^2\omega_3^3 - 6v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2v_1^2\omega_2\omega_3^2 - 6\omega_5\omega_2^3cs^2\omega_3^3 + 12\omega_5^2\omega_2^2cs^2\omega_3^2 + 6\omega_5v_1^2\omega_2^3\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 - 14\omega_5^2\omega_2^2cs^2\omega_3^3 - 18\omega_5^2v_1^2\omega_2\omega_3^3 + 6\omega_5^2\omega_2^3cs^2\omega_3 - 12\omega_2^2cs^2\omega_3^3 + 22\omega_5^2v_1^2\omega_2^2\omega_3^3 - 30\omega_5^2v_1^2\omega_2^3\omega_3 + 24\omega_5^2\omega_2cs^2\omega_3^3 - 48\omega_5^2v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2v_1^2\omega_2^3 - 4\omega_5^2v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2v_1^2\omega_2^2\omega_3 + \omega_5^2\omega_3^2cs^2\omega_3^3 - 6\omega_5^2\omega_2^3cs^2\omega_3^2 + 24\omega_5\omega_2^2cs^2\omega_3^3 + 12\omega_5v_1^2\omega_2\omega_3^3 + 22\omega_5^2v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y^2 v_2} = (-6\omega_5^2\omega_2^3\omega_3^2 cs^2 - 12\omega_2^2\omega_3^3 cs^2 - 24\omega_5 v_1^2\omega_2^2\omega_3^3 + 24\omega_5^2\omega_2\omega_3^3 cs^2 - 6v_1^2\omega_2^3\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3 cs^2 + 24\omega_5^2 v_1^2\omega_2\omega_3^2 + 6\omega_5 v_1^2\omega_2^3\omega_3^3 + \omega_5^2\omega_2^3\omega_3^3 cs^2 + 12v_1^2\omega_2^2\omega_3^3 + 24\omega_5\omega_2^2\omega_3^3 cs^2 - 18\omega_5^2 v_1^2\omega_2\omega_3^3 - 12\omega_5^2\omega_3^3 cs^2 + 22\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 30\omega_5^2 v_1^2\omega_2^3\omega_3 + 6\omega_2^3\omega_3^3 cs^2 + 12\omega_5^2\omega_2^2\omega_3^2 cs^2 - 48\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 12\omega_5\omega_2\omega_3^3 cs^2 + 12\omega_5^2 v_1^2\omega_2^3 - 4\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 6\omega_5\omega_2^3\omega_3^3 cs^2 + 24\omega_5^2 v_1^2\omega_2^2\omega_3 + 12\omega_5 v_1^2\omega_2\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3 cs^2 - 14\omega_5^2\omega_2^2\omega_3^3 cs^2 + 22\omega_5^2 v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^3 v_2}$ **at** $\frac{\partial^4 v_2}{\partial t\partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y^3 v_2} = (-36 + 34\omega^2 cs^2 + 42\omega^2 v_2^2 - 3\omega^3 v_2^2 - 2\omega^3 cs^2 + 60cs^2 + 54\omega + 72v_2^2 + \omega^3 - 20\omega^2 - 90\omega cs^2 - 108\omega v_2^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^3 v_2} =$
$(9\omega_6\omega_3^3 cs^2 + 12v_2^2\omega_6^2 - 11\omega_6^2\omega_3^2 + 24\omega_6^2 cs^2 + \omega_6^2\omega_3^3 + 48v_2^2\omega_6\omega_3 - 60v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_3^2 - 36\omega_6\omega_3^2 cs^2 - 6v_2^2\omega_3^3 + 12\omega_6^2\omega_3 + 15v_2^2\omega_6\omega_3^3 - 48\omega_6^2\omega_3 cs^2 - 12\omega_3^2 - 24\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 + 12\omega_3^2 cs^2 + 25\omega_6^2\omega_3^2 cs^2 + 27v_2^2\omega_6^2\omega_3^2 + 6\omega_3^3 + 24\omega_6\omega_3 cs^2 - 2\omega_6^2\omega_3^3 cs^2 - 6\omega_3^3 cs^2 - 9\omega_6\omega_3^3 - 42v_2^2\omega_6^2\omega_3 + 36\omega_6\omega_3^2)\frac{\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y^3 v_2} = (12cs^2\omega_3^2 + 25cs^2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2 - 11\omega_6^2\omega_3^2 - 2cs^2\omega_6^2\omega_3^3 + \omega_6^2\omega_3^3 + 48v_2^2\omega_6\omega_3 - 6cs^2\omega_3^3 - 60v_2^2\omega_6\omega_3^2 + 24cs^2\omega_6^2 + 12v_2^2\omega_3^2 - 6v_2^2\omega_3^3 + 12\omega_6^2\omega_3 + 15v_2^2\omega_6\omega_3^3 - 48cs^2\omega_6^2\omega_3 - 12\omega_3^2 + 24cs^2\omega_6\omega_3 - 24\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 + 27v_2^2\omega_6^2\omega_3^3 + 6\omega_3^3 - 9\omega_6\omega_3^3 - 42v_2^2\omega_6^2\omega_3 + 9cs^2\omega_6\omega_3^3 + 36\omega_6\omega_3^2 - 36cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^3 v_2} =$
$(24cs^2\omega_6^2 + 24cs^2\omega_6\omega_3 - 36v_2^2\omega_6^2 - 11\omega_6^2\omega_3^2 + \omega_6^2\omega_3^3 + 72v_2^2\omega_6\omega_3 - 108v_2^2\omega_6\omega_3^2 + 36v_2^2\omega_3^2 + 9cs^2\omega_6\omega_3^3 + 12cs^2\omega_3^2 - 36cs^2\omega_6\omega_3^2 - 18v_2^2\omega_3^3 + 12\omega_6^2\omega_3 + 27v_2^2\omega_6\omega_3^3 - 6cs^2\omega_3^3 - 12\omega_3^2 + 25cs^2\omega_6^2\omega_3^2 - 24\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 + 15v_2^2\omega_6^2\omega_3^2 - 2cs^2\omega_6^2\omega_3^3 + 6\omega_3^3 - 9\omega_6\omega_3^3 + 18v_2^2\omega_6^2\omega_3 - 48cs^2\omega_6^2\omega_3 + 36\omega_6\omega_3^2)\frac{\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y^3 v_2} =$
$(24\omega_6^2 cs^2 - 36v_2^2\omega_6^2 - 11\omega_6^2\omega_3^2 + 9\omega_6\omega_3^3 cs^2 + \omega_6^2\omega_3^3 + 72v_2^2\omega_6\omega_3 - 108v_2^2\omega_6\omega_3^2 + 36v_2^2\omega_3^2 - 48\omega_6^2\omega_3 cs^2 - 18v_2^2\omega_3^3 + 12\omega_6^2\omega_3 + 27v_2^2\omega_6\omega_3^3 - 36\omega_6\omega_3^2 cs^2 - 12\omega_3^2 - 24\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 + 24\omega_6\omega_3 cs^2 + 15v_2^2\omega_6^2\omega_3^2 + 6\omega_3^3 + 12\omega_3^2 cs^2 + 25\omega_6^2\omega_3^2 cs^2 - 9\omega_6\omega_3^3 + 18v_2^2\omega_6^2\omega_3 - 2\omega_6^2\omega_3^3 cs^2 - 6\omega_3^3 cs^2 + 36\omega_6\omega_3^2)\frac{\rho}{12\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1\partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^3\rho} = (24 - 72\omega^2 cs^2 + 6\omega^3 cs^2 - 120cs^2 - 36\omega - \omega^3 + 14\omega^2 + 180\omega cs^2)\frac{v_1 v_2}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^3\rho} = (-24\omega_2^3\omega_6\omega_3 cs^2 + 12\omega_2^2 v_2^2\omega_6^2\omega_3 + 6\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 - 3\omega_2^3\omega_3^3 - 12\omega_2^2\omega_6^2\omega_3^3 cs^2 - 12\omega_2^3 v_2^2\omega_3^3 - 48\omega_2^3\omega_6^2\omega_3^2 cs^2 + 6\omega_2^3 v_2^2\omega_3^3 + 6\omega_2^3\omega_6^2\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^3 + 42\omega_2^2\omega_6^2\omega_3^2 cs^2 + 7\omega_2^3\omega_6^2\omega_3^2 + 24\omega_2^3 v_2^2\omega_6^2 + 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6^2\omega_3^3 cs^2 - 12\omega_2^2 v_2^2\omega_6^2\omega_3^2 - 36\omega_2^3 v_2^2\omega_6\omega_3 + 6\omega_2\omega_6^2\omega_3^3 cs^2 - 12\omega_2^2\omega_6\omega_3^2 cs^2 + 6v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6\omega_3^3 + 6\omega_2^3\omega_3^3 cs^2 - 12\omega_2^2 v_2^2\omega_6\omega_3^2 - 24\omega_2^2\omega_6^2\omega_3 cs^2 - 21\omega_2^3\omega_6\omega_3^2 + 6\omega_2^2 v_2^2\omega_6\omega_3^3 - 12\omega_2^3\omega_6\omega_3^3 cs^2 - 12\omega_2 v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3\omega_3^2 cs^2 + 78\omega_2^3\omega_6^2\omega_3 cs^2 + 12\omega_2^3\omega_6\omega_3 + 6\omega_2^2\omega_6\omega_3^3 cs^2 - 12\omega_2^3 v_2^2\omega_6\omega_3^3 - 12\omega_2\omega_6^2\omega_3^3 cs^2 + \omega_2^2\omega_6^2\omega_3^3 + 6\omega_2 v_2^2\omega_6^2\omega_3^3 + 42\omega_2^3\omega_6\omega_3^2 cs^2 - 3\omega_2^2\omega_6^2\omega_3^2 + 42\omega_2^3 v_2^2\omega_6\omega_3^2)\frac{v_1 v_2}{6\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^3\rho} = (12\omega_2^2 v_2^2\omega_6^2\omega_3 + 6\omega_2^3 v_2^2\omega_6^2\omega_3^2 - 12cs^2\omega_2^2\omega_6\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 - 3\omega_2^3\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_2^3 v_2^2\omega_3^2 + 78cs^2\omega_2^3\omega_6^2\omega_3 + 6\omega_2^3 v_2^2\omega_3^3 + 6\omega_2^3\omega_3^2 - 12cs^2\omega_2^3\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 3\omega_2^2\omega_6\omega_3^3 + 6cs^2\omega_2^2\omega_6\omega_3^3 - 48cs^2\omega_2^3\omega_6^2\omega_3^2 + 7\omega_2^3\omega_6^2\omega_3^2 + 24\omega_2^3 v_2^2\omega_6^2 + 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 - 36cs^2\omega_2^3\omega_6^2 + 6cs^2\omega_2^3\omega_6^2\omega_3^3 - 12\omega_2^2 v_2^2\omega_6^2\omega_3^2 - 24\omega_2^3 v_2^2\omega_6\omega_3 - 24cs^2\omega_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3^3 + 6v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6\omega_3^3 - 12\omega_2^2 v_2^2\omega_6\omega_3^3 - 21\omega_2^3\omega_6\omega_3^2 + 42cs^2\omega_2^3\omega_6\omega_3^2 + 6\omega_2^2 v_2^2\omega_6\omega_3^3 - 12\omega_2 v_2^2\omega_6^2\omega_3^3 + 12\omega_2^3\omega_6\omega_3 - 24cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12\omega_2^3 v_2^2\omega_6\omega_3^3 + \omega_2^2\omega_6^2\omega_3^3 + 6\omega_2 v_2^2\omega_6^2\omega_3^3 - 3\omega_2^2\omega_6^2\omega_3^2 + 42cs^2\omega_2^2\omega_6^2\omega_3^2 + 42\omega_2^3 v_2^2\omega_6\omega_3^2)\frac{v_1 v_2}{6\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^3\rho} = (-36\omega_2^3 cs^2\omega_3^2 - 6\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 - 3\omega_2^3\omega_3^3 + 6\omega_2^3 cs^2\omega_6^2\omega_3^3 + 12\omega_2^3 v_2^2\omega_3^2 + 18\omega_2^3 cs^2\omega_3^3 - 12\omega_2^2 cs^2\omega_6^2\omega_3 - 6\omega_2^3 v_2^2\omega_3^3 - 36\omega_2^3 cs^2\omega_6^2\omega_3^2 + 6\omega_2^3\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^3 + 36\omega_2^3 cs^2\omega_6^2\omega_3 + 7\omega_2^3\omega_6^2\omega_3^2 + 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3 cs^2\omega_6^2 + 36\omega_2^2 cs^2\omega_6^2\omega_3^2 + 12\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 - 12\omega_2^2 cs^2\omega_6^2\omega_3^3 - 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 24\omega_2^3 v_2^2\omega_6\omega_3 + 6v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6\omega_3^3 + 12\omega_2^2 cs^2\omega_6\omega_3^3 - 21\omega_2^3\omega_6\omega_3^2 - 24\omega_2^3 cs^2\omega_6\omega_3 - 24\omega_2^2 cs^2\omega_6\omega_3^2 - 12\omega_2 cs^2\omega_6^2\omega_3^3 - 12\omega_2 v_2^2\omega_6^2\omega_3^3 + 12\omega_2^3\omega_6\omega_3 + 72\omega_2^3 cs^2\omega_6\omega_3^2 + \omega_2^2\omega_6^2\omega_3^3 + 6\omega_2 v_2^2\omega_6^2\omega_3^3 + 6\omega_2 cs^2\omega_6^2\omega_3^3 - 3\omega_2^2\omega_6^2\omega_3^2 + 12\omega_2^3 v_2^2\omega_6\omega_3^2 - 24\omega_2^3 cs^2\omega_6\omega_3^2)\frac{v_1 v_2}{6\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^3\rho} = (-36\omega_2^3\omega_6^2\omega_3^2 cs^2 - 6\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 6\omega_2^2\omega_6\omega_3^2 - 3\omega_2^3\omega_3^3 + 12\omega_2^3 v_2^2\omega_3^2 - 24\omega_2^3\omega_6\omega_3 cs^2 - 6\omega_2^3 v_2^2\omega_3^3 + 6\omega_2^3\omega_3^2 - 6\omega_2^3\omega_6^2\omega_3 - 3\omega_2^2\omega_6\omega_3^3 - 12\omega_2^2\omega_6^2\omega_3^3 cs^2 + 7\omega_2^3\omega_6^2\omega_3^2 + 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6^2\omega_3^3 cs^2 - 12\omega_2^3\omega_6^2 cs^2 + 36\omega_2^2\omega_6^2\omega_3^2 cs^2 + 12\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 - 6\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 24\omega_2^3 v_2^2\omega_6\omega_3 - 12\omega_2^2\omega_6^2\omega_3 cs^2 + 6v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_6\omega_3^3 - 24\omega_2^3\omega_6\omega_3^3 cs^2 - 21\omega_2^3\omega_6\omega_3^2 + 6\omega_2\omega_6^2\omega_3^3 cs^2 - 24\omega_2^2\omega_6\omega_3^2 cs^2 + 18\omega_2^3\omega_3^3 cs^2 + 72\omega_2^3\omega_6\omega_3^2 cs^2 - 12\omega_2 v_2^2\omega_6^2\omega_3^3 + 12\omega_2^3\omega_6\omega_3 + \omega_2^2\omega_6^2\omega_3^3 + 6\omega_2 v_2^2\omega_6^2\omega_3^3 + 36\omega_2^3\omega_6^2\omega_3 cs^2 - 36\omega_2^3\omega_3^2 cs^2 - 3\omega_2^2\omega_6^2\omega_3^2 + 12\omega_2^3 v_2^2\omega_6\omega_3^2 + 12\omega_2^2\omega_6\omega_3^3 cs^2 - 12\omega_2\omega_6^2\omega_3^3 cs^2)\frac{v_1 v_2}{6\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3 v_1}$ **at** $\frac{\partial^4 v_1}{\partial x_1\partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^3 v_1} = (36 - 56\omega^2 cs^2 - 20\omega^2 v_2^2 + \omega^3 v_2^2 + 4\omega^3 cs^2 - 96cs^2 - 54\omega - 36v_2^2 - \omega^3 + 20\omega^2 + 144\omega cs^2 + 54\omega v_2^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^3 v_1} = (-12\omega_6\omega_3^3 cs^2 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - 48\omega_6^2 cs^2 - \omega_6^2\omega_3^2 - 36v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 - 12v_2^2\omega_3^2 + 48\omega_6\omega_3^2 cs^2 + 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 12v_2^2\omega_6\omega_3^3 + 90\omega_6^2\omega_3 cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 12\omega_3^2 cs^2 - 44\omega_6^2\omega_3^2 cs^2 - 8v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 - 36\omega_6\omega_3 cs^2 + 4\omega_6^2\omega_3^3 cs^2 + 6\omega_3^3 cs^2 + 9\omega_6\omega_3^3 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^3 v_1} = (-12cs^2\omega_3^2 - 44cs^2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 + 4cs^2\omega_6^2\omega_3^3 - \omega_6^2\omega_3^3 - 36v_2^2\omega_6\omega_3 + 6cs^2\omega_3^3 + 48v_2^2\omega_6\omega_3^2 - 48cs^2\omega_6^2 - 12v_2^2\omega_3^2 + 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 12v_2^2\omega_6\omega_3^3 + 90cs^2\omega_6^2\omega_3 + 12\omega_3^2 - 36cs^2\omega_6\omega_3 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 8v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 + 9\omega_6\omega_3^3 - 12cs^2\omega_6\omega_3^3 - 36\omega_6\omega_3^2 + 48cs^2\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^3 v_1} =$
$(-36cs^2\omega_6\omega_3 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - \omega_6^2\omega_3^3 - 60v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_3^2 - 30cs^2\omega_6\omega_3^3 - 60cs^2\omega_3^2 + 96cs^2\omega_6\omega_3^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 30cs^2\omega_3^3 + 12\omega_3^2 - 26cs^2\omega_6^2\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 14v_2^2\omega_6^2\omega_3^2 + 4cs^2\omega_6^2\omega_3^3 - 6\omega_3^3 + 9\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 + 18cs^2\omega_6^2\omega_3 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^3 v_1} = (12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - 30\omega_6\omega_3^3 cs^2 - \omega_6^2\omega_3^3 - 60v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_3^2 + 18\omega_6^2\omega_3 cs^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 96\omega_6\omega_3^2 cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 36\omega_6\omega_3 cs^2 - 14v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 - 60\omega_3^2 cs^2 - 26\omega_6^2\omega_3^2 cs^2 + 9\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 + 4\omega_6^2\omega_3^3 cs^2 + 30\omega_3^3 cs^2 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^3 v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_1 \partial x_2^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^3 v_2} = (12 - 56\omega^2 cs^2 - 12\omega^2 v_2^2 + 3\omega^3 v_2^2 + 4\omega^3 cs^2 - 96cs^2 - 18\omega - 12v_2^2 - \omega^3 + 8\omega^2 + 144\omega cs^2 + 18\omega v_2^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^3 v_2} = (-12\omega_2^3\omega_6\omega_3 cs^2 + 12\omega_2^2\omega_6\omega_3^2 - 12\omega_2^2\omega_6^2\omega_3^3 cs^2 - 12\omega_2^3 v_2^2\omega_3^2 - 32\omega_2^3\omega_6^2\omega_3^2 cs^2 + 6\omega_2^3 v_2^2\omega_3^3 - 6\omega_2^2\omega_6\omega_3^3 + 3\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 48\omega_2^2\omega_6^2\omega_3^2 cs^2 + 3\omega_2^3\omega_6^2\omega_3^3 + 24\omega_2^3 v_2^2\omega_6^2 - 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 + 4\omega_2^3\omega_6^2\omega_3^3 cs^2 + 12\omega_2^2 v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3\omega_6^2 cs^2 - 12\omega_2^3 v_2^2\omega_6\omega_3 + 6\omega_2\omega_6^2\omega_3^3 cs^2 - 24\omega_2^2\omega_6\omega_3^2 cs^2 + 12v_2^2\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6\omega_3^3 + 6\omega_2^3\omega_3^3 cs^2 - 24\omega_2^2 v_2^2\omega_6\omega_3^2 - 24\omega_2^2\omega_6^2\omega_3 cs^2 - 6\omega_2^3\omega_6\omega_3^2 + 12\omega_2^2 v_2^2\omega_6\omega_3^3 - 12\omega_2^3\omega_6\omega_3^3 cs^2 - 18\omega_2 v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3\omega_3^2 cs^2 + 36\omega_2^3\omega_6^2\omega_3 cs^2 + 12\omega_2^2\omega_6\omega_3^3 cs^2 - 12\omega_2^3 v_2^2\omega_6\omega_3^3 - 12\omega_2\omega_6^2\omega_3^2 cs^2 + 2\omega_2^2\omega_6^2\omega_3^3 + 36\omega_2^3\omega_6\omega_3^2 cs^2 - 6\omega_2^2\omega_6^2\omega_3^2 + 36\omega_2^3 v_2^2\omega_6\omega_3^3)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^3 v_2} = (-24cs^2\omega_2^2\omega_6\omega_3^2 + 12\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_2^3 v_2^2\omega_3^2 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 6\omega_2^3 v_2^2\omega_3^3 - 12cs^2\omega_2^3\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 6\omega_2^2\omega_6\omega_3^3 + 3\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_2^2\omega_6\omega_3^3 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 + 3\omega_2^3\omega_6^2\omega_3^3 + 24\omega_2^3 v_2^2\omega_6^2 - 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6^2 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 + 12\omega_2^3 v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3 v_2^2\omega_6\omega_3 - 24cs^2\omega_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6\omega_3^3 - 24\omega_2^2 v_2^2\omega_6\omega_3^2 - 6\omega_2^3\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 + 12\omega_2^2 v_2^2\omega_6\omega_3^3 - 18\omega_2 v_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12\omega_2^3 v_2^2\omega_6\omega_3^3 + 2\omega_2^2\omega_6^2\omega_3^3 - 6\omega_2^2\omega_6^2\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 + 36\omega_2^3 v_2^2\omega_6\omega_3^3)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^3 v_2} = (-12\omega_2^3 cs^2\omega_3^2 - 12\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 12\omega_2^2\omega_6\omega_3^2 + 4\omega_2^3 cs^2\omega_6^2\omega_3^3 + 12\omega_2^3 v_2^2\omega_3^2 + 6\omega_2^3 cs^2\omega_3^3 - 24\omega_2^2 cs^2\omega_6^2\omega_3 - 6\omega_2^3 v_2^2\omega_3^3 - 32\omega_2^3 cs^2\omega_6^2\omega_3^2 - 6\omega_2^2\omega_6\omega_3^3 + 3\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 36\omega_2^3 cs^2\omega_6^2\omega_3 + 3\omega_2^3\omega_6^2\omega_3^3 - 24\omega_2^3 v_2^2\omega_6^2 - 12\omega_2^3 cs^2\omega_6^2 + 48\omega_2^2 cs^2\omega_6^2\omega_3^2 + 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 - 12\omega_2^2 cs^2\omega_6^2\omega_3^3 + 12\omega_2^2 v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3 v_2^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6\omega_3^3 + 12\omega_2^2 cs^2\omega_6\omega_3^3 - 24\omega_2^2 v_2^2\omega_6\omega_3^2 - 6\omega_2^3\omega_6\omega_3^2 - 12\omega_2^3 cs^2\omega_6\omega_3 + 12\omega_2^2 v_2^2\omega_6\omega_3^3 - 24\omega_2^2 cs^2\omega_6\omega_3^2 - 12\omega_2\omega_6 cs^2\omega_6^2\omega_3^2 - 18\omega_2 v_2^2\omega_6^2\omega_3^3 + 36\omega_2^3 cs^2\omega_6\omega_3^3 + 2\omega_2^2\omega_6^2\omega_3^3 + 6\omega_2 cs^2\omega_6^2\omega_3^3 - 6\omega_2^2\omega_6^2\omega_3^2 - 12\omega_2^3 v_2^2\omega_6\omega_3^3 - 12\omega_2^3 cs^2\omega_6\omega_3^3)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^3 v_2} = (-32\omega_2^3\omega_6^2\omega_3^2 cs^2 - 12\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 12\omega_2^2\omega_6\omega_3^2 + 12\omega_2^3 v_2^2\omega_3^2 - 12\omega_2^3\omega_6\omega_3 cs^2 - 6\omega_2^3 v_2^2\omega_3^3 - 6\omega_2^2\omega_6\omega_3^3 - 12\omega_2^2\omega_6^2\omega_3^3 cs^2 + 3\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6^2\omega_3^3 - 24\omega_2^3 v_2^2\omega_6^2 + 4\omega_2^3\omega_6^2\omega_3^3 cs^2 - 12\omega_2^3\omega_6^2 cs^2 + 48\omega_2^2\omega_6^2\omega_3^2 cs^2 + 30\omega_2^3 v_2^2\omega_6^2\omega_3 - \omega_2^3\omega_6^2\omega_3^3 + 12\omega_2^2 v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3 v_2^2\omega_6\omega_3 - 24\omega_2^2\omega_6^2\omega_3 cs^2 + 12v_2^2\omega_6^2\omega_3^3 + 3\omega_2^3\omega_6\omega_3^3 - 12\omega_2^3\omega_6\omega_3^3 cs^2 - 24\omega_2^2 v_2^2\omega_6\omega_3^2 - 6\omega_2^3\omega_6\omega_3^2 + 6\omega_2\omega_6^2\omega_3^3 cs^2 - 24\omega_2^2\omega_6\omega_3^2 cs^2 + 6\omega_2^3\omega_3^3 cs^2 + 12\omega_2^2 v_2^2\omega_6\omega_3^3 + 36\omega_2^3\omega_6\omega_3^2 cs^2 - 18\omega_2 v_2^2\omega_6^2\omega_3^3 + 2\omega_2^2\omega_6^2\omega_3^3 + 36\omega_2^3\omega_6^2\omega_3 cs^2 - 12\omega_2^3\omega_3^2 cs^2 - 6\omega_2^2\omega_6^2\omega_3^2 - 12\omega_2^3 v_2^2\omega_6\omega_3^2 + 12\omega_2^2\omega_6\omega_3^3 cs^2 - 12\omega_2\omega_6^2\omega_3^2 cs^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^4\rho}$ **at** $\frac{\partial^4\rho}{\partial x_2^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^4\rho} = (-14\omega^2 cs^2 + 42\omega^2 v_2^2 + 108\omega v_2^4 - 72\omega cs^4 - 3\omega^3 v_2^2 + \omega^3 cs^2 - 84\omega^2 cs^2 v_2^2 - 24cs^2 + 72v_2^2 - 144cs^2 v_2^2 - 3\omega^3 cs^4 + 3\omega^3 v_2^4 + 216\omega cs^2 v_2^2 - 72v_2^4 + 48cs^4 - 42\omega^2 v_2^4 + 30\omega^2 cs^4 + 6\omega^3 cs^2 v_2^2 + 36\omega cs^2 - 108\omega v_2^2)\frac{1}{24\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^4\rho} = (72v_2^4\omega_6\omega_3^2 - 6\omega_6\omega_3^3 cs^2 + 156v_2^2\omega_6^2\omega_3 cs^2 - 3\omega_6^2\omega_3^3 cs^4 + 48v_2^2\omega_6\omega_3^2 cs^2 - 24v_2^2\omega_3^2 cs^2 - 18v_2^4\omega_6\omega_3^3 + 48v_2^2\omega_6\omega_3 - 72v_2^2\omega_6\omega_3^2 + 24v_2^2\omega_3^2 + 24\omega_6^2\omega_3^2 cs^4 + 24\omega_6\omega_3^2 cs^2 + 24\omega_6\omega_3 cs^4 - 12v_2^2\omega_3^3 + 18v_2^2\omega_6\omega_3^3 + 12v_2^2\omega_3^3 cs^2 - 48v_2^4\omega_6\omega_3 + 12\omega_6^2\omega_3 cs^2 - 12v_2^2\omega_6\omega_3^3 cs^2 - 24\omega_6\omega_3^2 cs^4 - 3v_2^2\omega_6^2\omega_3^3 + 24v_2^4\omega_6^2\omega_3 - 96v_2^2\omega_6^2 cs^2 - 8\omega_6^2\omega_3^3 cs^2 + 24v_2^2\omega_6^2\omega_3^2 - 48\omega_6^2\omega_3 cs^4 - 24\omega_6\omega_3 cs^2 + 6v_2^2\omega_6^2\omega_3^3 cs^2 + \omega_6^2\omega_3^3 cs^2 - 24v_2^2\omega_6\omega_3 cs^2 + 12v_2^4\omega_3^3 + 3v_2^4\omega_6^2\omega_3^3 - 24v_2^2\omega_6^2\omega_3 + 6\omega_6\omega_3^3 cs^4 - 24v_2^4\omega_6^2\omega_3^2 - 24v_2^4\omega_3^2 - 72v_2^2\omega_6^2\omega_3^2 cs^2 + 24\omega_6^2 cs^4)\frac{1}{24\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^4\rho} = (72v_2^4\omega_6\omega_3^2 - 8cs^2\omega_6^2\omega_3^2 - 96cs^2 v_2^2\omega_6^2 - 18v_2^4\omega_6\omega_3^3 - 48cs^4\omega_6^2\omega_3 + cs^2\omega_6^2\omega_3^3 + 48v_2^2\omega_6\omega_3 - 24cs^2 v_2^2\omega_6\omega_3 - 72v_2^2\omega_6\omega_3^2 + 24v_2^2\omega_3^2 + 48cs^2 v_2^2\omega_6\omega_3^2 - 24cs^2 v_2^2\omega_3^2 + 24cs^4\omega_6^2\omega_3^2 - 12v_2^2\omega_3^3 + 12cs^2 v_2^2\omega_3^3 - 12cs^2 v_2^2\omega_6\omega_3^3 + 18v_2^2\omega_6\omega_3^3 + 12cs^2\omega_6^2\omega_3 - 3cs^4\omega_6^2\omega_3^3 -$

$48v_2^4\omega_6\omega_3 - 24cs^2\omega_6\omega_3 - 3v_2^2\omega_6^2\omega_3^3 + 6cs^2v_2^2\omega_6^2\omega_3^3 + 24v_2^4\omega_6^2\omega_3 + 6cs^4\omega_6\omega_3^3 - 72cs^2v_2^2\omega_6^2\omega_3^2 + 24v_2^2\omega_6^2\omega_3^2 - 24cs^4\omega_6\omega_3^2 + 12v_2^4\omega_3^3 + 24cs^4\omega_6\omega_3 + 3v_2^4\omega_6^2\omega_3^3 + 156cs^2v_2^2\omega_6^2\omega_3 - 24v_2^2\omega_6^2\omega_3 - 6cs^2\omega_6\omega_3^3 + 24cs^4\omega_6^2 - 24v_2^4\omega_6^2\omega_3^2 - 24v_2^4\omega_3^2 + 24cs^2\omega_6\omega_3^2)\frac{1}{24\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}^4_y\rho} = (72v_2^4\omega_6\omega_3^2 + 6cs^4\omega_6\omega_3^3 - 24cs^2\omega_6\omega_3 + 144v_2^2cs^2\omega_6\omega_3^2 - 24cs^4\omega_6\omega_3^2 - 30v_2^4\omega_6\omega_3^3 - 72v_2^2cs^2\omega_6\omega_3^3 - 72v_2^2\omega_6\omega_3^2 + 72v_2^2\omega_3^2 - 6cs^2\omega_6\omega_3^3 + 24cs^4\omega_6\omega_3 + 24cs^2\omega_6\omega_3^2 + 72v_2^2cs^2\omega_6\omega_3 - 36v_2^2\omega_3^3 + 30v_2^2\omega_6\omega_3^3 - 36v_2^2cs^2\omega_6^2\omega_3 - 8cs^2\omega_6^2\omega_3^2 - 3v_2^2\omega_6^2\omega_3^3 + 12v_2^2\omega_6^2\omega_3^2 + cs^2\omega_6^2\omega_3^3 + 24cs^4\omega_6^2 - 48cs^4\omega_6^2\omega_3 + 24cs^4\omega_6^2\omega_3^2 + 108v_2^2cs^2\omega_3^3 + 36v_2^4\omega_3^3 + 3v_2^4\omega_6^2\omega_3^3 + 6v_2^2cs^2\omega_6^2\omega_3^3 - 12v_2^4\omega_6^2\omega_3^2 - 72v_2^4\omega_3^2 - 216v_2^2cs^2\omega_3^2 - 3cs^4\omega_6^2\omega_3^3 - 12v_2^2cs^2\omega_6^2\omega_3^2 + 12cs^2\omega_6^2\omega_3)\frac{1}{24\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_y\rho} =$
$(144v_2^2\omega_6\omega_3^2cs^2 + 72v_2^4\omega_6\omega_3^2 - 216v_2^2\omega_3^2cs^2 - 30v_2^4\omega_6\omega_3^3 - 6\omega_6\omega_3^3cs^2 - 36v_2^2\omega_6^2\omega_3cs^2 - 3\omega_6^2\omega_3^3cs^4 - 72v_2^2\omega_6\omega_3^2 + 24\omega_6\omega_3cs^4 + 72v_2^2\omega_3^2 + 108v_2^2\omega_3^3cs^2 + 12\omega_6^2\omega_3cs^2 - 72v_2^2\omega_6\omega_3^3cs^2 - 36v_2^2\omega_3^3 + 24\omega_6^2\omega_3^3cs^4 + 30v_2^2\omega_6\omega_3^3 + 24\omega_6\omega_3^2cs^2 - 3v_2^2\omega_6^2\omega_3^3 - 48\omega_6^2\omega_3cs^4 - 24\omega_6\omega_3cs^2 + 6v_2^2\omega_6^2\omega_3^3cs^2 + 12v_2^2\omega_6^2\omega_3^2 - 24\omega_6\omega_3^2cs^4 - 8\omega_6^2\omega_3^2cs^2 - 12v_2^2\omega_6^2\omega_3^2cs^2 + 36v_2^2\omega_3^3 + 3v_2^4\omega_6^2\omega_3^3 + 24\omega_6^2cs^4 + \omega_6^2\omega_3^3cs^2 + 72v_2^2\omega_6\omega_3cs^2 - 12v_2^4\omega_6^2\omega_3^2 - 72v_2^4\omega_3^2 + 6\omega_6\omega_3^3cs^4)\frac{1}{24\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}^4_y v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_2^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}^4_y v_2} = (24 - 26\omega^2cs^2 - 22\omega^2v_2^2 + 2\omega^3v_2^2 + \omega^3cs^2 - 48cs^2 - 36\omega - 36v_2^2 - \omega^3 + 14\omega^2 + 72\omega cs^2 + 54\omega v_2^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}^4_y v_2} =$
$(-6\omega_6\omega_3^3cs^2 - 12v_2^2\omega_6^2 + 8\omega_6^2\omega_3^2 - 24\omega_6^2cs^2 - \omega_6^2\omega_3^3 - 12v_2^2\omega_6\omega_3 + 24v_2^2\omega_6\omega_3^2 - 12v_2^2\omega_3^2 + 24\omega_6\omega_3^2cs^2 + 6v_2^2\omega_3^3 - 6\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 42\omega_6^2\omega_3cs^2 + 12\omega_3^2 + 12\omega_6\omega_3 + 2v_2^2\omega_6^2\omega_3^3 - 12\omega_3^2cs^2 - 20\omega_6^2\omega_3^2cs^2 - 16v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 - 12\omega_6\omega_3cs^2 + \omega_6^2\omega_3^3cs^2 + 6\omega_3^3cs^2 + 6\omega_6\omega_3^3 + 24v_2^2\omega_6^2\omega_3 - 24\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}^4_y v_2} =$
$(-12cs^2\omega_3^2 - 20cs^2\omega_6^2\omega_3^2 - 12v_2^2\omega_6^2 + 8\omega_6^2\omega_3^2 + cs^2\omega_6^2\omega_3^3 - \omega_6^2\omega_3^3 - 12v_2^2\omega_6\omega_3 + 6cs^2\omega_3^3 + 24v_2^2\omega_6\omega_3^2 - 24cs^2\omega_6^2 - 12v_2^2\omega_3^2 + 6v_2^2\omega_3^3 - 6\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 42cs^2\omega_6^2\omega_3 + 12\omega_3^2 - 12cs^2\omega_6\omega_3 + 12\omega_6\omega_3 + 2v_2^2\omega_6^2\omega_3^3 - 16v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 + 6\omega_6\omega_3^3 + 24v_2^2\omega_6^2\omega_3 - 6cs^2\omega_6\omega_3^3 - 24\omega_6\omega_3^2 + 24cs^2\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}^4_y v_2} =$
$(24cs^2\omega_6^2 - 12cs^2\omega_6\omega_3 - 12v_2^2\omega_6^2 + 2\omega_6^2\omega_3^2 - \omega_6^2\omega_3^3 + 60v_2^2\omega_6\omega_3 + 24v_2^2\omega_6\omega_3^2 - 84v_2^2\omega_3^2 - 24cs^2\omega_6\omega_3^3 - 60cs^2\omega_3^2 + 72cs^2\omega_6\omega_3^2 + 42v_2^2\omega_3^3 + 6\omega_6^2\omega_3 - 24v_2^2\omega_6\omega_3^3 + 30cs^2\omega_3^3 + 36\omega_3^3 - 2cs^2\omega_6^2\omega_3^3 - 12\omega_6\omega_3 + 2v_2^2\omega_6^2\omega_3^3 + 2v_2^2\omega_6^2\omega_3^3 + cs^2\omega_6^2\omega_3^3 - 18\omega_3^3 + 12\omega_6\omega_3^3 - 12v_2^2\omega_6^2\omega_3 - 30cs^2\omega_6^2\omega_3 - 24\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_y v_2} =$
$(24\omega_6^2cs^2 - 12v_2^2\omega_6^2 + 2\omega_6^2\omega_3^2 - 24\omega_6\omega_3^3cs^2 - \omega_6^2\omega_3^3 + 60v_2^2\omega_6\omega_3 + 24v_2^2\omega_6\omega_3^2 - 84v_2^2\omega_3^2 - 30\omega_6^2\omega_3cs^2 + 42v_2^2\omega_3^3 + 6\omega_6^2\omega_3 - 24v_2^2\omega_6\omega_3^3 + 72\omega_6\omega_3^2cs^2 + 36\omega_3^2 - 12\omega_6\omega_3 + 2v_2^2\omega_6^2\omega_3^3 - 12\omega_6\omega_3cs^2 + 2v_2^2\omega_6^2\omega_3^2 - 18\omega_3^3 - 60\omega_3^2cs^2 - 2\omega_6^2\omega_3^2cs^2 + 12\omega_6\omega_3^3 - 12v_2^2\omega_6^2\omega_3 + \omega_6^2\omega_3^3cs^2 + 30\omega_3^3cs^2 - 24\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t^3\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t^3\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^3\mathrm{D}_z v_3} = (-2 + 3\omega - \omega^2)\frac{\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_z v_3} = (-2 - \omega_4^2 + 3\omega_4)\frac{\rho}{2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^3\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^3\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^3\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^3\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1}$ **at** $\frac{\partial^4 v_1}{\partial t^2\partial x_1\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1} = (36 - 54\omega - \omega^3 + 20\omega^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1} = (13\omega_4^2\omega_2^2 - 6\omega_4^3 + 12\omega_4^2 + 7\omega_4^3\omega_2 - \omega_4^3\omega_2^2 + 12\omega_2^2 - 24\omega_4^2\omega_2 + 12\omega_4\omega_2 - 24\omega_4\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t^2 \partial x_1 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3} = (36 - 54\omega - \omega^3 + 20\omega^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3} = (13\omega_4^2\omega_2^2 + 12\omega_4^2 - \omega_4^2\omega_2^3 - 6\omega_2^3 + 12\omega_2^2 - 24\omega_4^2\omega_2 + 12\omega_4\omega_2 + 7\omega_4\omega_2^3 - 24\omega_4\omega_2^2)\frac{v_1\rho}{12\omega_4^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_x\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1}$ **at** $\frac{\partial^4 v_1}{\partial t \partial x_1^2 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1} = (-24 + 36\omega + \omega^3 - 14\omega^2)\frac{v_1\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1} = (12\omega_4^2\omega_2^2 - 12\omega_4^3\omega_5 - 6\omega_5\omega_2^3 - 6\omega_4\omega_5\omega_2^2 + 24\omega_4^3\omega_5\omega_2 - 6\omega_4^2\omega_2^3 + 12\omega_4\omega_5\omega_2^3 + \omega_4^3\omega_5\omega_2^3 - 6\omega_4^3\omega_2^2 - 10\omega_4^3\omega_5\omega_2^2 + 3\omega_4^3\omega_2^3 - 12\omega_4^2\omega_5\omega_2 + 12\omega_4^2\omega_5\omega_2^2 - 7\omega_4^2\omega_5\omega_2^3)\frac{v_1\rho v_3}{6\omega_4^3\omega_5\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1} = (6\omega_4^2\omega_2^2 - 12\omega_4^3 - 7\omega_4^2\omega_2^3 + 18\omega_4^3\omega_2 - 6\omega_2^3 - 7\omega_4^3\omega_2^2 + \omega_4^3\omega_2^3 + 12\omega_4\omega_2^3 - 6\omega_4\omega_2^2)\frac{v_1\rho v_3}{6\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t \partial x_1^2 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3} = (34\omega^2 cs^2 - 2\omega^2 v_1^2 - 2\omega^3 cs^2 + \omega^3 v_1^2 + 60cs^2 - 90\omega cs^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3} = (9\omega_4\omega_5 v_1^2\omega_2^3 - 2\omega_4\omega_5^2\omega_2^3 cs^2 - 18\omega_5^2\omega_2^2 cs^2 + 12\omega_4\omega_5^2 cs^2 - 30\omega_4\omega_5 v_1^2\omega_2^2 - 6\omega_4\omega_2^3 cs^2 + 22\omega_4\omega_5^2\omega_2^2 cs^2 + 12\omega_4\omega_5 v_1^2\omega_2 + 12\omega_5 v_1^2\omega_2^2 + 12\omega_4\omega_2^2 cs^2 + 12\omega_4\omega_5\omega_2 cs^2 - 6\omega_5 v_1^2\omega_2^3 + 3\omega_5^2\omega_2^3 cs^2 + 36\omega_4\omega_5^2 v_1^2\omega_2 - 30\omega_4\omega_5\omega_2^2 cs^2 + 6\omega_5^2 v_1^2\omega_2^2 - 30\omega_4\omega_5^2\omega_2 cs^2 - 6\omega_5\omega_2^3 cs^2 - \omega_5^2 v_1^2\omega_2^3 + 12\omega_5^2\omega_2 cs^2 - 24\omega_4\omega_5^2 v_1^2 + 12\omega_4 v_1^2\omega_2^2 + 9\omega_4\omega_5\omega_2^3 cs^2 + \omega_4\omega_5^2 v_1^2\omega_2^3 - 12\omega_5^2 v_1^2\omega_2 + 12\omega_5\omega_2^2 cs^2 - 10\omega_4\omega_5^2 v_1^2\omega_2^2 - 6\omega_4 v_1^2\omega_2^3)\frac{\rho}{12\omega_4\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3} = (-6cs^2\omega_5\omega_2^3 + 9\omega_4\omega_5 v_1^2\omega_2^3 + 12cs^2\omega_5\omega_2^2 + 12\omega_4 cs^2\omega_5\omega_2 - 30\omega_4\omega_5 v_1^2\omega_2^2 - 30\omega_4 cs^2\omega_5\omega_2^2 + 12\omega_4\omega_5 v_1^2\omega_2 + 12\omega_5 v_1^2\omega_2^2 + 9\omega_4 cs^2\omega_5\omega_2^3 - 6\omega_5 v_1^2\omega_2^3 + 36\omega_4\omega_5^2 v_1^2\omega_2 - 2\omega_4 cs^2\omega_5^2\omega_2^3 + 6\omega_5^2 v_1^2\omega_2^2 + 22\omega_4 cs^2\omega_5^2\omega_2^2 + 12cs^2\omega_5^2\omega_2 - \omega_5^2 v_1^2\omega_2^3 - 18cs^2\omega_5^2\omega_2^2 - 24\omega_4\omega_5^2 v_1^2 + 12\omega_4 cs^2\omega_2^2 - 30\omega_4 cs^2\omega_5^2\omega_2 + 12\omega_4 v_1^2\omega_2^2 + \omega_4\omega_5^2 v_1^2\omega_2^3 - 12\omega_5^2 v_1^2\omega_2 - 6\omega_4 cs^2\omega_2^3 + 12\omega_4 cs^2\omega_5^2 + 3cs^2\omega_5^2\omega_2^3 - 10\omega_4\omega_5^2 v_1^2\omega_2^2 - 6\omega_4 v_1^2\omega_2^3)\frac{\rho}{12\omega_4\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3} = (12\omega_5^2\omega_2 cs^2 + 9\omega_4\omega_5\omega_2^3 cs^2 - 9\omega_4\omega_5 v_1^2\omega_2^3 + 12\omega_5\omega_2^2 cs^2 + 30\omega_4\omega_5 v_1^2\omega_2^2 - 12\omega_4\omega_5 v_1^2\omega_2 - 30\omega_4\omega_5\omega_2^2 cs^2 - 12\omega_5 v_1^2\omega_2^2 - 30\omega_4\omega_5^2\omega_2 cs^2 - 6\omega_5\omega_2^3 cs^2 + 6\omega_5 v_1^2\omega_2^3 - 36\omega_4\omega_5^2 v_1^2\omega_2 + 22\omega_4\omega_5^2\omega_2^2 cs^2 - 6\omega_5^2 v_1^2\omega_2^2 + 12\omega_4\omega_5^2 cs^2 + 12\omega_4\omega_5\omega_2 cs^2 - \omega_5^2 v_1^2\omega_2^3 + 3\omega_5^2\omega_2^3 cs^2 + 24\omega_4\omega_5^2 v_1^2 - 12\omega_4 v_1^2\omega_2^2 + \omega_4\omega_5^2 v_1^2\omega_2^3 - 2\omega_4\omega_5^2\omega_2^3 cs^2 + 12\omega_5^2 v_1^2\omega_2 - 18\omega_5^2\omega_2^2 cs^2 + 12\omega_4\omega_5^2 cs^2 + 8\omega_4\omega_5^2 v_1^2\omega_2^2 - 6\omega_4\omega_2^3 cs^2 + 6\omega_4 v_1^2\omega_2^3)\frac{\rho}{12\omega_4\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x^2\mathrm{D}_z v_3} = (-18\omega_5^2\omega_2^2 cs^2 + 12\omega_4\omega_5^2 cs^2 - 9\omega_4\omega_5 v_1^2\omega_2^3 - 6\omega_4\omega_2^3 cs^2 + 30\omega_4\omega_5 v_1^2\omega_2^2 - 2\omega_4\omega_5^2\omega_2^3 cs^2 + 12\omega_4\omega_5^2 cs^2 - 12\omega_4\omega_5 v_1^2\omega_2 + 12\omega_4\omega_5\omega_2 cs^2 - 12\omega_5 v_1^2\omega_2^2 + 3\omega_5^2\omega_2^3 cs^2 + 22\omega_4\omega_5^2\omega_2^2 cs^2 + 6\omega_5 v_1^2\omega_2^3 - 30\omega_4\omega_5^2\omega_2 cs^2 - 36\omega_4\omega_5^2 v_1^2\omega_2 - 6\omega_5\omega_2^3 cs^2 - 6\omega_5^2 v_1^2\omega_2^2 - 30\omega_4\omega_5\omega_2^2 cs^2 - \omega_5^2 v_1^2\omega_2^3 + 24\omega_4\omega_5^2 v_1^2 + 12\omega_5\omega_2^2 cs^2 - 12\omega_4 v_1^2\omega_2^2 + \omega_4\omega_5^2 v_1^2\omega_2^3 + 12\omega_5^2\omega_2 cs^2 + 12\omega_5^2 v_1^2\omega_2 + 9\omega_4\omega_5\omega_2^3 cs^2 + 8\omega_4\omega_5^2 v_1^2\omega_2^2 + 6\omega_4 v_1^2\omega_2^3)\frac{\rho}{12\omega_4\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z\rho}$ **at** $\frac{\partial^4 \rho}{\partial x_1^3 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_z\rho} = (24 - 72\omega^2 cs^2 + 6\omega^3 cs^2 - 120cs^2 - 36\omega - \omega^3 + 14\omega^2 + 180\omega cs^2)\frac{v_1 v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_z\rho} = (6\omega_4^3\omega_5^2v_1^2\omega_2^2 + \omega_4^2\omega_5^2\omega_2^3 - 12\omega_4^2\omega_5\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5^2v_1^2\omega_2 + 12\omega_4^3\omega_5\omega_2 - 12\omega_4^3\omega_2^2cs^2 - 12\omega_4^3\omega_5\omega_2^2cs^2 - 24\omega_4^2\omega_5^2\omega_2cs^2 - 3\omega_4^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_5\omega_2^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 6\omega_4^2\omega_5^2v_1^2\omega_2^2 + 6\omega_4^3\omega_2^2cs^2 + 6\omega_4^2\omega_5\omega_2^2cs^2 + 78\omega_4^3\omega_5^2\omega_2cs^2 - 36\omega_4^3\omega_5^2cs^2 + 6\omega_4^3\omega_2^2 - 21\omega_4^3\omega_5\omega_2^2 - 12\omega_4^2\omega_5^2v_1^2\omega_2^2 - 30\omega_4^3\omega_5^2v_1^2\omega_2 - 3\omega_4^3\omega_2^2 + 42\omega_4^3\omega_5\omega_2^2cs^2 - 12\omega_4^2\omega_5^2\omega_2^2cs^2 + 6\omega_4^3v_1^2\omega_2^2 + 7\omega_4^3\omega_5^2\omega_2^2 + 6\omega_4^2\omega_5v_1^2\omega_2^2 - 24\omega_4^3\omega_5\omega_2cs^2 - 12\omega_4^2\omega_5v_1^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 - 48\omega_4^3\omega_5^2\omega_2^2cs^2 + 6\omega_5^2v_1^2\omega_2^2 - 24\omega_4^3\omega_5v_1^2\omega_2 + 24\omega_4^3\omega_5^2v_1^2 + 42\omega_4^3\omega_5v_1^2\omega_2^2 + 42\omega_4^2\omega_5^2\omega_2^2cs^2 - 12\omega_4\omega_5^2v_1^2\omega_2^2 + 6\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^2 + 6\omega_4^3\omega_5^2\omega_2^2cs^2 - 3\omega_4^2\omega_5\omega_2^2 + 6\omega_4\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2)\frac{v_1v_3}{6\omega_4^3\omega_5^2\omega_2^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_z\rho} = (6\omega_4^3\omega_5^2v_1^2\omega_2^2 + \omega_4^2\omega_5^2\omega_2^3 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5^2v_1^2\omega_2 + 12\omega_4^3\omega_5\omega_2 + 78\omega_4^3cs^2\omega_5^2\omega_2 + 42\omega_4^2cs^2\omega_5^2\omega_2^2 - 3\omega_4^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_5\omega_2^3 + 6\omega_4^2\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2cs^2\omega_5^2\omega_2 - 48\omega_4^3cs^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_2^2 - 21\omega_4^3\omega_5\omega_2^2 - 12\omega_4^2\omega_5^2v_1^2\omega_2^2 - 30\omega_4^3\omega_5^2v_1^2\omega_2 - 3\omega_4^3\omega_2^2 + 6\omega_4^3cs^2\omega_5^2\omega_2^2 + 6\omega_4^3v_1^2\omega_2^2 + 7\omega_4^3\omega_5^2\omega_2^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 + 6\omega_4^2\omega_5v_1^2\omega_2^3 - 36\omega_4^3cs^2\omega_5^2 + 6\omega_4^3cs^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 12\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^3 - 12\omega_4^3v_1^2\omega_2^2 + 42\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 + 6\omega_5^2v_1^2\omega_2^3 - 24\omega_4^3\omega_5v_1^2\omega_2 + 24\omega_4^3\omega_5^2v_1^2 - 24\omega_4^3cs^2\omega_5\omega_2 + 42\omega_4^3\omega_5v_1^2\omega_2^2 - 12\omega_4\omega_5^2v_1^2\omega_2^3 + 6\omega_4^2\omega_5\omega_2^2 - 12\omega_4^2cs^2\omega_5\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^3 + 6\omega_4^2cs^2\omega_5\omega_2^3 - 3\omega_4^2\omega_5\omega_2^3 + 6\omega_4\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2)\frac{v_1v_3}{6\omega_4^3\omega_5^2\omega_2^2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_z\rho} =$
$(-6\omega_4^3\omega_5^2v_1^2\omega_2^2 + \omega_4^2\omega_5^2\omega_2^3 + 36\omega_4^2\omega_5^2\omega_2^2cs^2 + 12\omega_4^3\omega_5\omega_2 + 6\omega_4^3\omega_5^2\omega_2^2cs^2 - 3\omega_4^2\omega_5^2\omega_2^2 + 6\omega_4^3\omega_5\omega_2^3 + 6\omega_4^2\omega_5^2v_1^2\omega_2^3 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 - 24\omega_4^3\omega_5\omega_2cs^2 + 6\omega_4^3\omega_2^2 - 21\omega_4^3\omega_5\omega_2^2 - 6\omega_4^2\omega_5^2v_1^2\omega_2^2 + 12\omega_4^3\omega_5^2v_1^2\omega_2 - 3\omega_4^3\omega_2^3 - 36\omega_4^3\omega_5^2\omega_2^2cs^2 + 18\omega_4^3\omega_2^2cs^2 - 6\omega_4^3v_1^2\omega_2^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 + 7\omega_4^3\omega_5^2\omega_2^2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - \omega_4^3\omega_5^2\omega_2^3 + 12\omega_4^3v_1^2\omega_2^2 + 6\omega_5^2v_1^2\omega_2^3 - 24\omega_4^3\omega_5v_1^2\omega_2 + 72\omega_4^3\omega_5\omega_2^2cs^2 + 12\omega_4^3\omega_5v_1^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 12\omega_4\omega_5^2v_1^2\omega_2^3 - 36\omega_4^3\omega_2^2cs^2 + 6\omega_4^2\omega_5\omega_2^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 - 24\omega_4^3\omega_5\omega_2^3cs^2 - 3\omega_4^2\omega_5\omega_2^3 + 6\omega_4\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2 - 12\omega_4^2\omega_5^2\omega_2cs^2)\frac{v_1v_3}{6\omega_4^3\omega_5^2\omega_2^2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_z\rho} = (-6\omega_4^3\omega_5^2v_1^2\omega_2^2 - 24\omega_4^3\omega_5\omega_2^2cs^2 + \omega_4^2\omega_5^2\omega_2^3 - 12\omega_4^2\omega_5^2\omega_2cs^2 + 12\omega_4^3\omega_5\omega_2 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 36\omega_4^3\omega_2^2cs^2 - 3\omega_4^2\omega_5^2\omega_2^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 + 6\omega_4^3\omega_5\omega_2^2 + 6\omega_4^2\omega_5^2v_1^2\omega_2^2 + 72\omega_4^3\omega_5\omega_2^2cs^2 + 6\omega_4^3\omega_2^2 + 18\omega_4^3\omega_2^2cs^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^2cs^2 - 21\omega_4^3\omega_5\omega_2^2 - 6\omega_4^2\omega_5^2v_1^2\omega_2^2 + 12\omega_4^3\omega_5^2v_1^2\omega_2 - 3\omega_4^3\omega_2^3 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 6\omega_4^3v_1^2\omega_2^2 + 7\omega_4^3\omega_5^2\omega_2^2 - 36\omega_4^3\omega_5^2\omega_2^2cs^2 - 12\omega_4^2\omega_5^2\omega_2^2cs^2 - \omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^3v_1^2\omega_2^2 - 24\omega_4^3\omega_5\omega_2cs^2 + 6\omega_5^2v_1^2\omega_2^2 - 24\omega_4^3\omega_5v_1^2\omega_2 + 6\omega_4^3\omega_5^2v_1^2 + 36\omega_4^3\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^2cs^2 - 24\omega_4^3\omega_5^2v_1^2\omega_2^2 - 12\omega_4\omega_5^2v_1^2\omega_2^3 + 6\omega_4^2\omega_5\omega_2^2 - 3\omega_4^2\omega_5\omega_2^3 + 6\omega_4\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2\omega_2 + 36\omega_4^2\omega_5^2\omega_2^2cs^2)\frac{v_1v_3}{6\omega_4^3\omega_5^2\omega_2^2}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z v_1}$ **at** $\frac{\partial^4 v_1}{\partial x_1^3\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_z v_1} = (12 - 56\omega^2cs^2 - 12\omega^2v_1^2 - 12v_1^2 + 4\omega^3cs^2 + 3\omega^3v_1^2 - 96cs^2 - 18\omega - \omega^3 + 8\omega^2 + 18\omega v_1^2 + 144\omega cs^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_z v_1} = (2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2\omega_5\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 - 12\omega_4^3\omega_2^2cs^2 - 12\omega_4^3\omega_5\omega_2^2cs^2 + 3\omega_4^3\omega_5^2v_1^2\omega_2^2 - 24\omega_4^2\omega_5^2\omega_2cs^2 - 6\omega_4^2\omega_5^2\omega_2^2 + 3\omega_4^3\omega_5\omega_2^3 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 6\omega_4^3\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^2cs^2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 6\omega_4^3\omega_5\omega_2^2 + 12\omega_4^2\omega_5^2v_1^2\omega_2^2 - 30\omega_4^3\omega_5^2v_1^2\omega_2 + 36\omega_4^3\omega_5\omega_2^2cs^2 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 + 6\omega_4^3v_1^2\omega_2^2 + 3\omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^2\omega_5v_1^2\omega_2^3 - 12\omega_4^3\omega_5\omega_2cs^2 - 24\omega_4^3\omega_5v_1^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 12\omega_5^2v_1^2\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^2 + 24\omega_4^3\omega_5^2v_1^2 + 36\omega_4^3\omega_5v_1^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2^2cs^2 - 18\omega_4\omega_5^2v_1^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^3 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 - 6\omega_4^2\omega_5\omega_2^3)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_z v_1} = (2\omega_4^2\omega_5^2\omega_2^3 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 36\omega_4^3cs^2\omega_5^2\omega_2 + 3\omega_4^3\omega_5^2v_1^2\omega_2^3 + 48\omega_4^2cs^2\omega_5^2\omega_2^2 - 6\omega_4^2\omega_5^2\omega_2^2 + 3\omega_4^3\omega_5\omega_2^3 - 24\omega_4^2cs^2\omega_5^2\omega_2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 6\omega_4^3\omega_5\omega_2^2 + 12\omega_4^2\omega_5^2v_1^2\omega_2^2 - 30\omega_4^3\omega_5^2v_1^2\omega_2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 + 6\omega_4^3v_1^2\omega_2^3 + 3\omega_4^3\omega_5^2\omega_2^2 + 6\omega_4cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5v_1^2\omega_2^3 - 12\omega_4^3cs^2\omega_5^2 + 6\omega_4^3cs^2\omega_5\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 24\omega_4^2\omega_5v_1^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^3 - 12\omega_4^3v_1^2\omega_2^2 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 + 12\omega_5^2v_1^2\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2 + 24\omega_4^3\omega_5^2v_1^2 - 12\omega_4^3cs^2\omega_5\omega_2 + 36\omega_4^3\omega_5v_1^2\omega_2^2 - 18\omega_4\omega_5^2v_1^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 - 24\omega_4^2cs^2\omega_5\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^3 + 12\omega_4^2cs^2\omega_5\omega_2^3 - 6\omega_4^2\omega_5\omega_2^3)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_z v_1} = (-12\omega_4^3\omega_5^2v_1^2\omega_2^2 + 2\omega_4^2\omega_5^2\omega_2^3 + 48\omega_4^2\omega_5^2\omega_2^2cs^2 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 + 3\omega_4^3\omega_5^2v_1^2\omega_2^3 - 6\omega_4^2\omega_5^2\omega_2^2 + 3\omega_4^3\omega_5\omega_2^3 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 - 12\omega_4^3\omega_5\omega_2cs^2 - 6\omega_4^3\omega_5\omega_2^2 + 12\omega_4^2\omega_5^2v_1^2\omega_2^2 + 30\omega_4^3\omega_5^2v_1^2\omega_2 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 6\omega_4^3\omega_2^2cs^2 - 6\omega_4^3v_1^2\omega_2^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 + 3\omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^2\omega_5v_1^2\omega_2^3 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 24\omega_4^2\omega_5v_1^2\omega_2^2 - \omega_4^3\omega_5^2\omega_2^3 + 12\omega_4^3v_1^2\omega_2^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2 - 24\omega_4^3\omega_5^2v_1^2 + 36\omega_4^3\omega_5\omega_2^2cs^2 - 12\omega_4^3\omega_5v_1^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 18\omega_4\omega_5^2v_1^2\omega_2^3 - 12\omega_4^3\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 - 12\omega_4^3\omega_5\omega_2^3cs^2 - 6\omega_4^2\omega_5\omega_2^3 - 24\omega_4^2\omega_5^2\omega_2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_z v_1} = (-12\omega_4^3\omega_5^2v_1^2\omega_2^2 - 12\omega_4^3\omega_5\omega_2^3cs^2 + 2\omega_4^2\omega_5^2\omega_2^3 - 24\omega_4^2\omega_5^2\omega_2cs^2 + 3\omega_4^3\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 12\omega_4^3\omega_2^2cs^2 - 6\omega_4^2\omega_5^2\omega_2^2 + 6\omega_4\omega_5^2\omega_2^2cs^2 + 3\omega_4^3\omega_5\omega_2^3 + 36\omega_4^3\omega_5\omega_2^2cs^2 + 6\omega_4^3\omega_2^2cs^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 - 6\omega_4^3\omega_5\omega_2^2 + 12\omega_4^2\omega_5^2v_1^2\omega_2^2 + 30\omega_4^3\omega_5^2v_1^2\omega_2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 6\omega_4^3v_1^2\omega_2^2 + 3\omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^2\omega_5v_1^2\omega_2^3 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 - 24\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 - \omega_4^3\omega_5^2\omega_2^2 + 12\omega_4^3v_1^2\omega_2^2 - 12\omega_4^3\omega_5\omega_2cs^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2 - 24\omega_4^3\omega_5^2v_1^2 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 - 12\omega_4^3\omega_5v_1^2\omega_2^2 - 18\omega_4\omega_5^2v_1^2\omega_2^3 + 12\omega_4^2\omega_5\omega_2^2 - 6\omega_4^2\omega_5\omega_2^3 + 48\omega_4^2\omega_5^2\omega_2^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^3\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_1^3\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^3\mathrm{D}_z v_3} = (36 - 56\omega^2cs^2 - 20\omega^2v_1^2 - 36v_1^2 + 4\omega^3cs^2 + \omega^3v_1^2 - 96cs^2 - 54\omega - \omega^3 + 20\omega^2 + 54\omega v_1^2 + 144\omega cs^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^3\mathrm{D}_z v_3} = (-36\omega_5\omega_2cs^2 + 9\omega_5\omega_2^3 + 6\omega_2^3cs^2 - 48\omega_5^2cs^2 - 44\omega_5^2\omega_2^2cs^2 - 36\omega_5\omega_2^2 - 36\omega_5v_1^2\omega_2 - 6\omega_2^3 + 24\omega_5\omega_2 - 12\omega_2^2cs^2 + 48\omega_5v_1^2\omega_2^2 + 12\omega_2^2 - 12\omega_5v_1^2\omega_2^3 + 4\omega_5^2\omega_2^3cs^2 - 8\omega_5^2v_1^2\omega_2^2 - 12\omega_5^2\omega_2 - 12\omega_5\omega_2^3cs^2 + \omega_5^2v_1^2\omega_2^3 + 11\omega_5^2\omega_2^2 + 90\omega_5^2\omega_2cs^2 + 6v_1^2\omega_2^3 - 12v_1^2\omega_2^2 - \omega_5^2\omega_2^3 + 48\omega_5\omega_2^2cs^2 + 12\omega_5^2v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^3\mathrm{D}_z v_3} = (-12cs^2\omega_5\omega_2^3+9\omega_5\omega_2^3+48cs^2\omega_5\omega_2^2-36\omega_5\omega_2^2-36\omega_5 v_1^2\omega_2-6\omega_2^3+24\omega_5\omega_2-36cs^2\omega_5\omega_2+48\omega_5 v_1^2\omega_2^2+12\omega_2^2-12\omega_5 v_1^2\omega_2^3-8\omega_5^2 v_1^2\omega_2^2+90cs^2\omega_5^2\omega_2-12\omega_5^2\omega_2+\omega_5^2 v_1^2\omega_2^3+11\omega_5^2\omega_2^2-44cs^2\omega_5^2\omega_2^2+6v_1^2\omega_2^3+6cs^2\omega_2^3-48cs^2\omega_5^2-12v_1^2\omega_2^2-\omega_5^2\omega_2^3+4cs^2\omega_5^2\omega_2^3+12\omega_5^2 v_1^2-12cs^2\omega_2^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^3\mathrm{D}_z v_3} = (18\omega_5^2\omega_2 cs^2+9\omega_5\omega_2^3-36\omega_5\omega_2^2-60\omega_5 v_1^2\omega_2+96\omega_5\omega_2^2 cs^2-6\omega_2^3+24\omega_5\omega_2+48\omega_5 v_1^2\omega_2^2+12\omega_2^2-30\omega_5\omega_2^3 cs^2-6\omega_5 v_1^2\omega_2^3-60\omega_2^2 cs^2-14\omega_5^2 v_1^2\omega_2^2-12\omega_5^2\omega_2+\omega_5^2 v_1^2\omega_2^3+4\omega_5^2\omega_2^3 cs^2+11\omega_5^2\omega_2^2+30\omega_2^3 cs^2-36\omega_5\omega_2 cs^2-6v_1^2\omega_2^3+12v_1^2\omega_2^2+12\omega_5^2 v_1^2\omega_2-26\omega_5^2\omega_2^2 cs^2-\omega_5^2\omega_2^3+12\omega_5^2 v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^3\mathrm{D}_z v_3} =$
$(-26\omega_5^2\omega_2^2 cs^2+9\omega_5\omega_2^3-36\omega_5\omega_2^2-60\omega_5 v_1^2\omega_2+30\omega_2^3 cs^2-36\omega_5\omega_2 cs^2-6\omega_2^3+24\omega_5\omega_2+48\omega_5 v_1^2\omega_2^2+4\omega_5^2\omega_2^3 cs^2+12\omega_2^2-60\omega_2^2 cs^2-6\omega_5 v_1^2\omega_2^3-30\omega_5\omega_2^3 cs^2-14\omega_5^2 v_1^2\omega_2^2-12\omega_5^2\omega_2+\omega_5^2 v_1^2\omega_2^3+11\omega_5^2\omega_2^2+96\omega_5\omega_2^2 cs^2-6v_1^2\omega_2^3+18\omega_5^2\omega_2 cs^2+12v_1^2\omega_2^2+12\omega_5^2 v_1^2\omega_2-\omega_5^2\omega_2^3+12\omega_5^2 v_1^2)\frac{v_1\rho}{12\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2}$ **at** $\frac{\partial^4 v_2}{\partial t^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2} = (36-54\omega-\omega^3+20\omega^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2} = (-24\omega_4\omega_3^2-6\omega_4^3+12\omega_4^2+12\omega_4\omega_3+12\omega_3^2-24\omega_4^2\omega_3-\omega_4^3\omega_3^2+7\omega_4^3\omega_3+13\omega_4^2\omega_3^2)\frac{\rho v_3}{12\omega_4^3\omega_3^2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3} = (36-54\omega-\omega^3+20\omega^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3} = (-24\omega_4\omega_3^2+12\omega_4^2+7\omega_4\omega_3^3+12\omega_4\omega_3+12\omega_3^2-24\omega_4^2\omega_3-6\omega_3^3-\omega_4^2\omega_3^3+13\omega_4^2\omega_3^2)\frac{v_2\rho}{12\omega_4^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_y\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$ **at** $\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = (-20+30\omega+\omega^3-12\omega^2)\frac{v_2\rho v_3}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = (-12\omega_4^2\omega_2\omega_3-6\omega_4^3\omega_2-6\omega_4\omega_3^3-16\omega_4^2\omega_2\omega_3^3+30\omega_4^2\omega_2\omega_3^2-4\omega_4^3\omega_3^3+18\omega_4\omega_2\omega_3^3-6\omega_2\omega_3^3+18\omega_4^3\omega_2\omega_3-12\omega_4\omega_2\omega_3^2+12\omega_4^3\omega_3^2-16\omega_4^3\omega_2\omega_3^2+12\omega_4^2\omega_3^3-6\omega_4^3\omega_3-12\omega_4^2\omega_3^2+3\omega_4^3\omega_2\omega_3^3)\frac{v_2\rho v_3}{6\omega_4^3\omega_2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$ **at** $\frac{\partial^4 v_2}{\partial t\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = (-20+30\omega+\omega^3-12\omega^2)\frac{v_1\rho v_3}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = (-12\omega_4^2\omega_2^2 - 12\omega_4^2\omega_2\omega_3 + 3\omega_4^3\omega_2^2\omega_3 + 12\omega_4^2\omega_2^3 - 6\omega_4^3\omega_2 - 12\omega_4\omega_2^2\omega_3 - 6\omega_2^3\omega_3 - 16\omega_4^3\omega_2^2\omega_3 + 12\omega_4^3\omega_2^2 - 4\omega_4^3\omega_2^3 + 18\omega_4\omega_2^3\omega_3 + 18\omega_4^3\omega_2\omega_3 - 16\omega_4^2\omega_2^3\omega_3 - 6\omega_4^3\omega_3 - 6\omega_4\omega_2^3 + 30\omega_4^2\omega_2^2\omega_3)\frac{v_1\rho v_3}{6\omega_4^3\omega_2^3\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = (-20 + 30\omega + \omega^3 - 12\omega^2)\frac{v_1 v_2\rho}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = (-16\omega_4\omega_2^3\omega_3^2 - 4\omega_2^3\omega_3^3 + 3\omega_4\omega_2^3\omega_3^3 - 6\omega_4\omega_3^3 - 12\omega_4\omega_2^2\omega_3 + 12\omega_2^3\omega_3^2 + 12\omega_2^2\omega_3^3 - 6\omega_2^3\omega_3 + 30\omega_4\omega_2^2\omega_3^2 - 12\omega_2^2\omega_3^2 - 16\omega_4\omega_2^2\omega_3^3 + 18\omega_4\omega_2^3\omega_3 + 18\omega_4\omega_2\omega_3^3 - 6\omega_2\omega_3^3 - 12\omega_4\omega_2\omega_3^2 - 6\omega_4\omega_2^3)\frac{v_1 v_2\rho}{6\omega_4\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho} = (-12\omega^2 cs^2 + 24\omega^2 v_1^2 + 40v_1^2 + \omega^3 cs^2 - 2\omega^3 v_1^2 - 20cs^2 - 60\omega v_1^2 + 30\omega cs^2)\frac{v_2 v_3}{\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho} = (-8\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^3 + \omega_4^3\omega_2^3\omega_3^3 cs^2 - 2\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^2 - 2\omega_4\omega_5^2\omega_2^2\omega_3^3 cs^2 - 2\omega_4^3\omega_5^2\omega_2^3\omega_3^2 cs^2 + \omega_4^2\omega_5\omega_2^3\omega_3^3 cs^2 - 8\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 2\omega_4^3\omega_5^2\omega_2^2\omega_3^3 cs^2 - 2\omega_4^4\omega_5^2\omega_2^3\omega_3^3 cs^2 + 6\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^3\omega_5^2 v_1^2\omega_2^3 + 6\omega_4^3\omega_5^2\omega_2\omega_3^3 cs^2 + 3\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 7\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 6\omega_4^2\omega_5^2\omega_2^2\omega_3^3 cs^2 + 4\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^2 + \omega_4^3\omega_5^2\omega_2^3\omega_3^3 cs^2 - 21\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 4\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^3 + \omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^2 - 2\omega_4^3\omega_5^2\omega_2^3\omega_3 cs^2 - 2\omega_4^2\omega_5^2\omega_2^2\omega_3^3 cs^2 - 12\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3 - 2\omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2\omega_3^3 cs^2 + 7\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 6\omega_4^3\omega_5\omega_2^2\omega_3^3 cs^2 + 7\omega_4^2\omega_5^2 v_1^2\omega_2\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2^2\omega_3^3 cs^2 + \omega_4^3\omega_5\omega_2^3\omega_3^2 cs^2 - 12\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 2\omega_4^2\omega_5\omega_2^2\omega_3^3 cs^2 + \omega_4^2\omega_5 v_1^2\omega_2^3\omega_3^3 + 12\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_2^2\omega_3^3 cs^2 - 8\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3 - 2\omega_4^3\omega_5\omega_2\omega_3^3 cs^2 + 6\omega_4^3\omega_5^2\omega_2^2\omega_3^2 cs^2 + \omega_4^3 v_1^2\omega_2^3\omega_3^3 + \omega_4\omega_5^2\omega_2^3\omega_3^3 cs^2 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 7\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 10\omega_4^3\omega_5^2 v_1^2\omega_3^3 - 2\omega_4^3\omega_5\omega_2^3\omega_3^3 cs^2 - 2\omega_4^3\omega_5 v_1^2\omega_2\omega_3^3 + \omega_4^2\omega_5^2\omega_2^3\omega_3^3 cs^2 - 2\omega_4^3 v_1^2\omega_2^2\omega_3^3 - 6\omega_4^3\omega_5^2\omega_2^2\omega_3^3 cs^2 + \omega_4^3\omega_5^2\omega_2^3\omega_3 cs^2 - 2\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 4\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3 - 2\omega_4^2\omega_5 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2\omega_3^3 cs^2)\frac{v_2 v_3}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho} = (-8\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^2 - 2\omega_4^2 cs^2\omega_5\omega_2^2\omega_3^3 - 6\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3 - 8\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 2\omega_4^2 cs^2\omega_5^2\omega_2\omega_3^3 + 6\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^3\omega_5^2 v_1^2\omega_2^3 + 3\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 7\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^3 cs^2\omega_5\omega_2\omega_3^3 + 6\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3 + 4\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 + \omega_4^2 cs^2\omega_5\omega_2^2\omega_3^3 - 21\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 4\omega_4\omega_5^2 v_1^2\omega_2^2\omega_3^3 + \omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^2 - 12\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3^2 + 3\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3 - 2\omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^3 + 7\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 7\omega_4^2\omega_5^2 v_1^2\omega_2\omega_3^3 - 2\omega_4^3 cs^2\omega_5\omega_2^2\omega_3^3 + \omega_4^3 cs^2\omega_5^2\omega_2^3\omega_3^2 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 - 2\omega_4^2 cs^2\omega_5^2\omega_2^3\omega_3^3 - 12\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^2 + \omega_4^3 cs^2\omega_5\omega_2^3\omega_3^3 + \omega_4^2\omega_5 v_1^2\omega_2^3\omega_3^3 + \omega_4 cs^2\omega_5^2\omega_2^3\omega_3^3 + 12\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 8\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3 + \omega_4^2 cs^2\omega_5^2\omega_2^3\omega_3^2 + \omega_4^3 v_1^2\omega_2^3\omega_3^3 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 6\omega_4^2 cs^2\omega_5^2\omega_2^2\omega_3^3 + 7\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 10\omega_4^3\omega_5^2 v_1^2\omega_2^3 - 2\omega_4^3\omega_5 v_1^2\omega_2\omega_3^3 - 2\omega_4^3 cs^2\omega_5^2\omega_2^2\omega_3^3 + 6\omega_4^3 cs^2\omega_5\omega_2^2\omega_3^3 - 2\omega_4^3 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 4\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3 - 2\omega_4^2\omega_5 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3 cs^2\omega_5\omega_2^2\omega_3^3 + 6\omega_4^3 cs^2\omega_5^2\omega_2\omega_3^3)\frac{v_2 v_3}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho} = (-2\omega_4^3\omega_2^2 cs^2\omega_3^3 - 8\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 2\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^2 - 2\omega_4^3\omega_5\omega_2 cs^2\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2^2 cs^2\omega_3 + \omega_4\omega_5^2\omega_2^3 cs^2\omega_3^3 + \omega_4^2\omega_5^2\omega_2^3 cs^2\omega_3^2 - 2\omega_4^3\omega_5^2\omega_2^2 cs^2\omega_3^3 - 8\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 6\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^3\omega_5^2 v_1^2\omega_2^3 + 3\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 7\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^2\omega_5^2\omega_3^3 cs^2\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2 cs^2\omega_3^3 + 4\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 6\omega_4^3\omega_5^2\omega_2^2 cs^2\omega_3^3 + \omega_4^3\omega_5\omega_2^3 cs^2\omega_3^3 - 7\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 4\omega_4\omega_5^2 v_1^2\omega_2^2\omega_3^3 - \omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^2 - 10\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3 + 2\omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^3 + 3\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 6\omega_4^3\omega_5^2\omega_2^2 cs^2\omega_3^3 - 2\omega_4^3\omega_5\omega_2^3 cs^2\omega_3^3 + 6\omega_4^2\omega_5^2\omega_2^2 cs^2\omega_3^3 + 3\omega_4^2\omega_5^2 v_1^2\omega_2\omega_3^3 - 2\omega_4^3\omega_5^2 cs^2\omega_3^3 - 10\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 + 6\omega_4^3\omega_5^2\omega_2 cs^2\omega_3^3 + \omega_4^2\omega_5\omega_2^3 cs^2\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2^2 cs^2\omega_3^3 - \omega_4^2\omega_5 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2 cs^2\omega_3^3 + 8\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3 - 8\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3 + \omega_4^3\omega_2^3 cs^2\omega_3^3 + \omega_4^3\omega_5^2\omega_2^3 cs^2\omega_3 - 2\omega_4\omega_5^2\omega_2^2 cs^2\omega_3^3 - \omega_4^3 v_1^2\omega_2^3\omega_3^3 + 3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 7\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^2 + 6\omega_4^3\omega_5\omega_2^2 cs^2\omega_3^3 - 2\omega_4^3\omega_2^2 cs^2\omega_3^3 + 2\omega_4^3\omega_5^2 v_1^2\omega_3^3 + 2\omega_4^3\omega_5 v_1^2\omega_2\omega_3^3 + 2\omega_4^3 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5\omega_2^2 cs^2\omega_3^3 + \omega_4^3\omega_5^2\omega_2^2 cs^2\omega_3^3 - 2\omega_4^3\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 4\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3 + 2\omega_4^2\omega_5 v_1^2\omega_2^2\omega_3^3)\frac{v_2 v_3}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z\rho} = (-8\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 2\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^2 - 2\omega_4^3\omega_5\omega_2^2\omega_3^2 cs^2 + 6\omega_4^3\omega_5^2\omega_2\omega_3^3 cs^2 - 2\omega_4^3\omega_5^2\omega_3^3 cs^2 + 6\omega_4^2\omega_5^2\omega_2^2\omega_3^3 cs^2 - 8\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^2 + \omega_4^3\omega_2^3\omega_3^3 cs^2 - 6\omega_4^3\omega_5 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2^3\omega_3^3 cs^2 + 3\omega_4^3\omega_5^2 v_1^2\omega_2^3 + 3\omega_4\omega_5^2 v_1^2\omega_2^3\omega_3^2 - 2\omega_4\omega_5^2\omega_2^3\omega_3^3 cs^2 + 7\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3^3 + \omega_4^2\omega_5\omega_2^3\omega_3^3 cs^2 - 2\omega_4^2\omega_5^2\omega_2^2\omega_3^3 cs^2 + 4\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2\omega_3^3 cs^2 - 7\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 + 4\omega_4\omega_5^2 v_1^2\omega_2^2\omega_3^3 - \omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^2 + 6\omega_4^3\omega_5\omega_2^2\omega_3^3 cs^2 - 10\omega_4^2\omega_5^2 v_1^2\omega_2^2\omega_3^3 + 3\omega_4^2\omega_5^2 v_1^2\omega_2^3\omega_3 + \omega_4^3\omega_5^2\omega_2^3\omega_3^3 cs^2 + 2\omega_4^3\omega_5 v_1^2\omega_2^3\omega_3^3 + 3\omega_4^3\omega_5^2 v_1^2\omega_2\omega_3^3 - 2\omega_4^3\omega_5^2\omega_2^2\omega_3 cs^2 - 2\omega_4^2\omega_5\omega_2^2\omega_3^3 cs^2 + 3\omega_4^2\omega_5^2 v_1^2\omega_2\omega_3^3 - 2\omega_4^3\omega_5\omega_2\omega_3^3 cs^2 - 2\omega_4^3\omega_2^2\omega_3^3 cs^2 + \omega_4\omega_5^2\omega_2^3\omega_3^3 cs^2 - 10\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^3 + 6\omega_4^3\omega_5^2\omega_2^2\omega_3^3 cs^2 - \omega_4^2\omega_5 v_1^2\omega_2^3\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2^3\omega_3^3 cs^2 + 8\omega_4^3\omega_5^2 v_1^2\omega_2^2\omega_3^3 + \omega_4^3\omega_5\omega_2^3\omega_3^3 cs^2 -$

$8\omega_4^3\omega_5^2v_1^2\omega_2^3\omega_3 - \omega_4^3v_1^2\omega_2^3\omega_3^3 + 3\omega_5^2v_1^2\omega_2^3\omega_3^3 + 7\omega_4^3\omega_5^2v_1^2\omega_3^3\omega_3^2 - 6\omega_4^3\omega_5^2\omega_2^2\omega_3^3cs^2 + \omega_4^3\omega_5^2\omega_2^3\omega_3cs^2 + 2\omega_4^3\omega_5^2v_1^2\omega_3^3 + 2\omega_4^3\omega_5v_1^2\omega_2\omega_3^3 - 2\omega_4^2\omega_5^2\omega_2\omega_3^3cs^2 + 2\omega_4^3v_1^2\omega_2^2\omega_3^3 - 2\omega_4^3\omega_5\omega_2^2\omega_3^3cs^2 - 2\omega_4^3\omega_5^2v_1^2\omega_2^3\omega_3^3 + 4\omega_4^3\omega_5^2v_1^2\omega_2^2\omega_3 + \omega_4^2\omega_5^2\omega_2^3\omega_3^2cs^2 + 2\omega_4^2\omega_5v_1^2\omega_2^2\omega_3^3)\frac{v_2v_3}{\omega_4^3\omega_5^2\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1}$ **at** $\frac{\partial^4 v_1}{\partial x_1^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1} = (132 - 198\omega - 5\omega^3 + 76\omega^2)\frac{v_1v_2\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1} = (18\omega_4\omega_2^3\omega_3^2 + 28\omega_4^3\omega_2^2\omega_3^3 - 30\omega_4^3\omega_2^3\omega_3 + 12\omega_2^3\omega_3^3 - 30\omega_4^3\omega_2^2\omega_3^2 - 30\omega_4\omega_2^3\omega_3^3 - 5\omega_4^3\omega_2^3\omega_3^3 + 6\omega_4^3\omega_2^2\omega_3 + 18\omega_4^2\omega_2\omega_3^3 + 12\omega_4^3\omega_2^3 + 6\omega_4\omega_2^2\omega_3^3 + 24\omega_4^3\omega_2^3\omega_3^2 + 12\omega_4^3\omega_3^3 + 12\omega_4^2\omega_2^2\omega_3^2 + 18\omega_4^2\omega_2^3\omega_3 - 30\omega_4^2\omega_2^2\omega_3^3 + 18\omega_4^3\omega_2\omega_3^2 - 42\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^2\omega_3^3 - 36\omega_4^2\omega_2\omega_3^3)\frac{v_1v_2\rho v_3}{6\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_1}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_1^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (-56\omega^2cs^2 + 52\omega^2v_1^2 + 84v_1^2 + 4\omega^3cs^2 - 5\omega^3v_1^2 - 96cs^2 - 126\omega v_1^2 + 144\omega cs^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (40\omega_4^3\omega_5^2v_1^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^3cs^2 + 48\omega_4^2\omega_5^2v_1^2\omega_2 - 12\omega_4^3\omega_2^2cs^2 - 12\omega_4^3\omega_5\omega_2^3cs^2 - 5\omega_4^3\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2\omega_5^2\omega_2cs^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 24\omega_4^2\omega_5^2v_1^2\omega_2^3 + 6\omega_4^3\omega_2^3cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 60\omega_4^2\omega_5^2v_1^2\omega_2^2 - 90\omega_4^3\omega_5^2v_1^2\omega_2 + 36\omega_4^3\omega_5\omega_2^2cs^2 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 + 6\omega_4^3v_1^2\omega_2^3 + 12\omega_4^2\omega_5v_1^2\omega_2^3 - 12\omega_4^3\omega_5\omega_2cs^2 - 24\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 12\omega_5^2v_1^2\omega_2^3 - 12\omega_4^3\omega_5v_1^2\omega_2 + 48\omega_4^3\omega_5^2v_1^2 + 36\omega_4^3\omega_5v_1^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2^2cs^2 - 30\omega_4\omega_5^2v_1^2\omega_2^3 - 12\omega_4^3\omega_5v_1^2\omega_2^3 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 + 24\omega_4\omega_5^2v_1^2\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (40\omega_4^3\omega_5^2v_1^2\omega_2^2 - 12\omega_4^2cs^2\omega_5^2\omega_2^3 + 48\omega_4^2\omega_5^2v_1^2\omega_2 + 36\omega_4^3cs^2\omega_5^2\omega_2 - 5\omega_4^3\omega_5^2v_1^2\omega_2^3 + 48\omega_4^2cs^2\omega_5^2\omega_2^2 + 24\omega_4^2\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2cs^2\omega_5^2\omega_2 - 32\omega_4^3cs^2\omega_5^2\omega_2^2 - 60\omega_4^2\omega_5^2v_1^2\omega_2^2 - 90\omega_4^3\omega_5^2v_1^2\omega_2 + 4\omega_4^3cs^2\omega_5^2\omega_2^3 + 6\omega_4^3v_1^2\omega_2^3 + 6\omega_4cs^2\omega_5^2\omega_2^3 + 12\omega_4^2\omega_5v_1^2\omega_2^3 - 12\omega_4^3cs^2\omega_2^2 + 6\omega_4^3cs^2\omega_2^3 - 12\omega_4^3cs^2\omega_5\omega_2^3 - 24\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4cs^2\omega_5^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 + 36\omega_4^3cs^2\omega_5\omega_2^2 - 12\omega_4^3cs^2\omega_2^2 + 12\omega_5^2v_1^2\omega_2^3 - 12\omega_4^3\omega_5v_1^2\omega_2 + 48\omega_4^3\omega_5^2v_1^2 - 12\omega_4^3cs^2\omega_5\omega_2 + 36\omega_4^3\omega_5v_1^2\omega_2^2 - 30\omega_4\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2cs^2\omega_5\omega_2^2 - 12\omega_4^3\omega_5v_1^2\omega_2^3 + 12\omega_4^2cs^2\omega_5\omega_2^3 + 24\omega_4\omega_5^2v_1^2\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (16\omega_4^3\omega_5^2v_1^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2^2cs^2 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 - 5\omega_4^3\omega_5^2v_1^2\omega_2^3 + 24\omega_4^2\omega_5^2v_1^2\omega_2^3 - 12\omega_4^2\omega_5^2\omega_2^3cs^2 - 12\omega_4^3\omega_5\omega_2cs^2 - 36\omega_4^2\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2v_1^2\omega_2 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 6\omega_4^3\omega_2^3cs^2 - 6\omega_4^3v_1^2\omega_2^3 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 - 12\omega_4^2\omega_5v_1^2\omega_2^3 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 + 24\omega_4^2\omega_5v_1^2\omega_2^2 + 12\omega_4^3v_1^2\omega_2^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2 + 36\omega_4^3\omega_5\omega_2^2cs^2 - 36\omega_4^3\omega_5v_1^2\omega_2^2 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 30\omega_4\omega_5^2v_1^2\omega_2^3 - 12\omega_4^3\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^3cs^2 + 12\omega_4^3\omega_5v_1^2\omega_2^3 - 12\omega_4^3\omega_5\omega_2^3cs^2 + 24\omega_4\omega_5^2v_1^2\omega_2^2 - 24\omega_4^2\omega_5^2\omega_2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (16\omega_4^3\omega_5^2v_1^2\omega_2^2 - 12\omega_4^3\omega_5\omega_2^3cs^2 - 24\omega_4^2\omega_5^2\omega_2cs^2 - 5\omega_4^3\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 12\omega_4^3\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^3cs^2 + 24\omega_4^2\omega_5^2v_1^2\omega_2^3 + 36\omega_4^3\omega_5\omega_2^2cs^2 + 6\omega_4^3\omega_2^3cs^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 - 36\omega_4^2\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2v_1^2\omega_2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 6\omega_4^3v_1^2\omega_2^3 - 12\omega_4^2\omega_5v_1^2\omega_2^3 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 24\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 + 24\omega_4^3\omega_5\omega_2\omega_2cs^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 - 36\omega_4^3\omega_5v_1^2\omega_2^2 - 30\omega_4\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2^3 + 24\omega_4\omega_5^2v_1^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_2} = (16\omega_4^3\omega_5^2v_1^2\omega_2^2 - 12\omega_4^3\omega_5\omega_2^3cs^2 - 24\omega_4^2\omega_5^2\omega_2cs^2 - 5\omega_4^3\omega_5^2v_1^2\omega_2^3 - 24\omega_4^2\omega_5\omega_2^2cs^2 - 12\omega_4^3\omega_2^2cs^2 + 6\omega_4\omega_5^2\omega_2^3cs^2 + 24\omega_4^2\omega_5^2v_1^2\omega_2^3 + 36\omega_4^3\omega_5\omega_2^2cs^2 + 6\omega_4^3\omega_2^3cs^2 - 12\omega_4\omega_5^2\omega_2^2cs^2 + 12\omega_4^2\omega_5\omega_2^3cs^2 - 36\omega_4^2\omega_5^2v_1^2\omega_2^2 - 6\omega_4^3\omega_5^2v_1^2\omega_2 + 36\omega_4^3\omega_5^2\omega_2cs^2 - 12\omega_4^3\omega_5^2cs^2 - 6\omega_4^3v_1^2\omega_2^3 - 12\omega_4^2\omega_5v_1^2\omega_2^3 - 32\omega_4^3\omega_5^2\omega_2^2cs^2 + 24\omega_4^2\omega_5v_1^2\omega_2^2 - 12\omega_4^3v_1^2\omega_2^2 + 24\omega_4^3\omega_5\omega_2\omega_2cs^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2 + 4\omega_4^3\omega_5^2\omega_2^3cs^2 - 36\omega_4^3\omega_5v_1^2\omega_2^2 - 30\omega_4\omega_5^2v_1^2\omega_2^3 + 12\omega_4^3\omega_5v_1^2\omega_2^3 + 24\omega_4\omega_5^2v_1^2\omega_2^2 + 48\omega_4^2\omega_5^2\omega_2^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_1^2\partial x_2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} = (-56\omega^2cs^2 + 52\omega^2v_1^2 + 84v_1^2 + 4\omega^3cs^2 - 5\omega^3v_1^2 - 96cs^2 - 126\omega v_1^2 + 144\omega cs^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} = (36\omega_5v_1^2\omega_2^2\omega_3^3 + 36\omega_5^2\omega_2\omega_3^3cs^2 - 24\omega_5\omega_2^2\omega_3^3cs^2 - 12\omega_5^2\omega_2^3\omega_3^3cs^2 - 12\omega_2^2\omega_3^3cs^2 - 24\omega_5v_1^2\omega_2^2\omega_3^3 + 6v_1^2\omega_2^3\omega_3^3 + 36\omega_5\omega_2^2\omega_3^3cs^2 + 48\omega_5^2v_1^2\omega_2\omega_3^2 - 12\omega_5v_1^2\omega_2^3\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 - 24\omega_5^2\omega_2\omega_3^2cs^2 - 12v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3cs^2 + 12\omega_5v_1^2\omega_2^3\omega_3^2 - 90\omega_5^2v_1^2\omega_2\omega_3^3 + 4\omega_5^2\omega_2^3\omega_3^3cs^2 + 6\omega_2^3\omega_3^3cs^2 + 48\omega_5^2\omega_2^2\omega_3^3cs^2 + 40\omega_5^2v_1^2\omega_2^2\omega_3^3 - 12\omega_5\omega_2\omega_3^3cs^2 - 30\omega_5^2v_1^2\omega_2^3\omega_3 - 60\omega_5^2v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2v_1^2\omega_2^3 + 12\omega_5\omega_2^3\omega_3^2cs^2 - 12\omega_5^2\omega_3^3cs^2 - 5\omega_5^2v_1^2\omega_2^3\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3cs^2 + 24\omega_5^2v_1^2\omega_2^2\omega_3 - 32\omega_5^2\omega_2^2\omega_3^3cs^2 - 12\omega_5v_1^2\omega_2\omega_3^3 - 12\omega_5\omega_2^3\omega_3^3cs^2 + 24\omega_5^2v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} = (36\omega_5v_1^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_3^3 - 12cs^2\omega_5\omega_2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 + 48cs^2\omega_5^2\omega_2^2\omega_3^2 - 24\omega_5v_1^2\omega_2^2\omega_3^2 + 6v_1^2\omega_2^3\omega_3^3 - 32cs^2\omega_5^2\omega_2^2\omega_3^3 + 6cs^2\omega_5^2\omega_2^3\omega_3 - 12cs^2\omega_2^2\omega_3^3 - 12cs^2\omega_5^2\omega_2^3\omega_3^2 + 48\omega_5^2v_1^2\omega_2\omega_3^2 - 12\omega_5v_1^2\omega_2^3\omega_3^3 + 48\omega_5^2v_1^2\omega_3^3 + 4cs^2\omega_5^2\omega_2^3\omega_3^2 - 12cs^2\omega_5^2\omega_2^2\omega_3 - 12v_1^2\omega_2^2\omega_3^3 + 12\omega_5v_1^2\omega_2^3\omega_3^2 - 90\omega_5^2v_1^2\omega_2\omega_3^3 + 12cs^2\omega_5\omega_2^3\omega_3^2 + 40\omega_5^2v_1^2\omega_2^2\omega_3^3 - 30\omega_5^2v_1^2\omega_2^3\omega_3 - 12cs^2\omega_5\omega_2^2\omega_3^3 - 60\omega_5^2v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2v_1^2\omega_2^3 - 5\omega_5^2v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2v_1^2\omega_2^2\omega_3 - 24cs^2\omega_5\omega_2^2\omega_3^2 + 36cs^2\omega_5^2\omega_2\omega_3^3 - 12\omega_5v_1^2\omega_2\omega_3^3 + 24\omega_5^2v_1^2\omega_2^2\omega_3^2 - 24cs^2\omega_5^2\omega_2\omega_3^2 + 36cs^2\omega_5\omega_2^2\omega_3^3)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} = (-36\omega_5 v_1^2\omega_2^2\omega_3^3 - 12\omega_5^2 cs^2\omega_3^3 + 6\omega_2^2 cs^2\omega_3^3 - 12\omega_5^2\omega_2^2 cs^2\omega_3 - 12\omega_5\omega_2 cs^2\omega_3^3 + 24\omega_5 v_1^2\omega_2^2\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 - 12\omega_5\omega_2^3 cs^2\omega_3^3 + 48\omega_5^2\omega_2^2 cs^2\omega_3^2 + 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 12v_1^2\omega_2^2\omega_3^3 - 12\omega_5 v_1^2\omega_2^3\omega_3^2 + 12\omega_5\omega_2^3 cs^2\omega_3^2 - 32\omega_5^2\omega_2^2 cs^2\omega_3^3 - 6\omega_5^2 v_1^2\omega_2\omega_3^3 + 6\omega_5^2\omega_2^3 cs^2\omega_3 - 12\omega_2^2 cs^2\omega_3^3 + 16\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 24\omega_5^2\omega_2 cs^2\omega_3^2 - 30\omega_5^2 v_1^2\omega_2^3\omega_3 + 36\omega_5^2\omega_2 cs^2\omega_3^3 - 36\omega_5^2 v_1^2\omega_2^2\omega_3^2 + 12\omega_5^2 v_1^2\omega_2^2 - 5\omega_5^2 v_1^2\omega_2^3\omega_3^3 + 24\omega_5^2 v_1^2\omega_2^2\omega_3 + 4\omega_5^2\omega_2^3 cs^2\omega_3^3 - 24\omega_5\omega_2^2 cs^2\omega_3^2 - 12\omega_5^2\omega_2^3 cs^2\omega_3^3 + 36\omega_5\omega_2^2 cs^2\omega_3^3 + 12\omega_5 v_1^2\omega_2\omega_3^3 + 24\omega_5^2 v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_y\mathrm{D}_z v_3} = (-12\omega_5^2\omega_2^3\omega_3^2 cs^2 - 12\omega_2^2\omega_3^3 cs^2 - 36\omega_5 v_1^2\omega_2^2\omega_3^3 + 36\omega_5^2\omega_2\omega_3^3 cs^2 - 24\omega_5\omega_2^2\omega_3^2 cs^2 + 24\omega_5 v_1^2\omega_2^2\omega_3^2 - 6v_1^2\omega_2^3\omega_3^3 - 12\omega_5^2\omega_2^2\omega_3 cs^2 + 12\omega_5 v_1^2\omega_2^3\omega_3^3 + 4\omega_5^2\omega_2^3\omega_3^3 cs^2 + 12v_1^2\omega_2^2\omega_3^3 + 36\omega_5\omega_2^2\omega_3^3 cs^2 - 12\omega_5 v_1^2\omega_2^3\omega_3^2 - 24\omega_5^2\omega_2\omega_3^2 cs^2 - 6\omega_5^2 v_1^2\omega_2\omega_3^3 - 12\omega_5^2\omega_3^3 cs^2 + 12\omega_5\omega_2^3\omega_3^2 cs^2 + 16\omega_5^2 v_1^2\omega_2^2\omega_3^3 - 30\omega_5^2 v_1^2\omega_2^3\omega_3 + 6\omega_2^2\omega_3^3 cs^2 + 48\omega_5^2\omega_2^2\omega_3^2 cs^2 - 36\omega_5^2 v_1^2\omega_2^2\omega_3^2 - 12\omega_5\omega_2\omega_3^3 cs^2 + 12\omega_5^2 v_1^2\omega_2^2 - 5\omega_5^2 v_1^2\omega_2^3\omega_3^3 - 12\omega_5\omega_2^2\omega_3^3 cs^2 + 24\omega_5^2 v_1^2\omega_2^2\omega_3 + 12\omega_5 v_1^2\omega_2\omega_3^3 + 6\omega_5^2\omega_2^3\omega_3 cs^2 - 32\omega_5^2\omega_2^2\omega_3^3 cs^2 + 24\omega_5^2 v_1^2\omega_2^3\omega_3^2)\frac{v_2\rho}{12\omega_5^2\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2}$ **at** $\frac{\partial^4 v_2}{\partial t\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} = (-24 + 36\omega + \omega^3 - 14\omega^2)\frac{v_2\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} = (12\omega_4^2\omega_6\omega_3^2 - 7\omega_4^2\omega_6\omega_3^3 - 12\omega_4^2\omega_6\omega_3 + 3\omega_4^3\omega_3^3 - 12\omega_4^3\omega_6 + \omega_4^3\omega_6\omega_3^3 - 10\omega_4^3\omega_6\omega_3^2 - 6\omega_4^3\omega_3^2 + 24\omega_4^3\omega_6\omega_3 - 6\omega_4\omega_6\omega_3^2 - 6\omega_4^2\omega_3^3 - 6\omega_6\omega_3^3 + 12\omega_4\omega_6\omega_3^3 + 12\omega_4^2\omega_3^2)\frac{v_2\rho v_3}{6\omega_4^3\omega_6\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} = (-6\omega_4\omega_3^2 - 12\omega_4^3 + 12\omega_4\omega_3^3 + \omega_4^3\omega_3^3 - 6\omega_3^3 - 7\omega_4^3\omega_3^2 - 7\omega_4^2\omega_3^3 + 18\omega_4^3\omega_3 + 6\omega_4^2\omega_3^2)\frac{v_2\rho v_3}{6\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial t\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} = (34\omega^2 cs^2 - 2\omega^2 v_2^2 + \omega^3 v_2^2 - 2\omega^3 cs^2 + 60cs^2 - 90\omega cs^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} = (-6\omega_6\omega_3^3 cs^2 + 9\omega_4 v_2^2\omega_6\omega_3^3 + 12\omega_4\omega_6^2 cs^2 - 30\omega_4\omega_6^2\omega_3 cs^2 - 30\omega_4 v_2^2\omega_6\omega_3^2 - 24\omega_4 v_2^2\omega_6^2 - 30\omega_4\omega_6\omega_3^2 cs^2 + 12v_2^2\omega_6\omega_3^2 + 12\omega_4 v_2^2\omega_6\omega_3 + 12\omega_6\omega_3^2 cs^2 - 6\omega_4 v_2^2\omega_3^3 + 9\omega_4\omega_6\omega_3^3 cs^2 - 6v_2^2\omega_6\omega_3^3 + 12\omega_4 v_2^2\omega_3^2 + 12\omega_6^2\omega_3 cs^2 - v_2^2\omega_6^2\omega_3^3 - 18\omega_6^2\omega_3^2 cs^2 + 12\omega_4\omega_3^2 cs^2 - 2\omega_4\omega_6^2\omega_3^3 cs^2 + 6v_2^2\omega_6^2\omega_3^2 + 36\omega_4 v_2^2\omega_6^2\omega_3 + 3\omega_6^2\omega_3^3 cs^2 - 10\omega_4 v_2^2\omega_6^2\omega_3^2 + 12\omega_4\omega_6\omega_3 cs^2 - 12v_2^2\omega_6^2\omega_3 + \omega_4 v_2^2\omega_6^2\omega_3^3 - 6\omega_4\omega_3^3 cs^2 + 22\omega_4\omega_6^2\omega_3^2 cs^2)\frac{\rho}{12\omega_4\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} = (-6\omega_4 cs^2\omega_3^3 + 9\omega_4 v_2^2\omega_6\omega_3^3 - 30\omega_4 cs^2\omega_6^2\omega_3 - 18cs^2\omega_6^2\omega_3^2 - 30\omega_4 v_2^2\omega_6\omega_3^2 + 12\omega_4 cs^2\omega_3^2 - 24\omega_4 v_2^2\omega_6^2 + 3cs^2\omega_6^2\omega_3^3 + 12v_2^2\omega_6\omega_3^2 - 2\omega_4 cs^2\omega_6^2\omega_3^3 + 12\omega_4 v_2^2\omega_6\omega_3 - 6\omega_4 v_2^2\omega_3^3 - 6v_2^2\omega_6\omega_3^3 + 12cs^2\omega_6^2\omega_3 + 12\omega_4 cs^2\omega_6^2 + 12\omega_4 v_2^2\omega_3^2 + 22\omega_4 cs^2\omega_6^2\omega_3^2 - v_2^2\omega_6^2\omega_3^3 - 30\omega_4 cs^2\omega_6\omega_3^2 + 6v_2^2\omega_6^2\omega_3^2 + 36\omega_4 v_2^2\omega_6^2\omega_3 + 9\omega_4 cs^2\omega_6\omega_3^3 - 10\omega_4 v_2^2\omega_6^2\omega_3^2 - 12v_2^2\omega_6^2\omega_3 - 6cs^2\omega_6\omega_3^3 + 12\omega_4 cs^2\omega_6\omega_3 + \omega_4 v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_6\omega_3^2)\frac{\rho}{12\omega_4\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} = (-30\omega_4 cs^2\omega_6\omega_3^2 - 9\omega_4 v_2^2\omega_6\omega_3^3 + 30\omega_4 v_2^2\omega_6\omega_3^2 + 24\omega_4 v_2^2\omega_6^2 + 9\omega_4 cs^2\omega_6\omega_3^3 + 12\omega_4 cs^2\omega_6^2 - 12v_2^2\omega_6\omega_3^2 - 6\omega_4 cs^2\omega_3^3 - 6cs^2\omega_6\omega_3^3 - 12\omega_4 v_2^2\omega_6\omega_3 + 6\omega_4 v_2^2\omega_3^3 + 12cs^2\omega_6\omega_3^2 + 12\omega_4 cs^2\omega_3^2 + 6v_2^2\omega_6\omega_3^3 + 12\omega_4 cs^2\omega_6\omega_3 - 12\omega_4 v_2^2\omega_3^2 - 18cs^2\omega_6^2\omega_3^2 - v_2^2\omega_6^2\omega_3^3 - 30\omega_4 cs^2\omega_6^2\omega_3 - 6v_2^2\omega_6^2\omega_3^2 + 3cs^2\omega_6^2\omega_3^3 - 36\omega_4 v_2^2\omega_6^2\omega_3 + 8\omega_4 v_2^2\omega_6^2\omega_3^2 - 2\omega_4 cs^2\omega_6^2\omega_3^3 + 12v_2^2\omega_6^2\omega_3 + 22\omega_4 cs^2\omega_6^2\omega_3^2 + \omega_4 v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_6^2\omega_3)\frac{\rho}{12\omega_4\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y^2\mathrm{D}_z v_3} = (-9\omega_4 v_2^2\omega_6\omega_3^3 - 30\omega_4\omega_6\omega_3^2 cs^2 + 30\omega_4 v_2^2\omega_6\omega_3^2 - 6\omega_6\omega_3^3 cs^2 + 24\omega_4 v_2^2\omega_6^2 + 12\omega_4\omega_6^2 cs^2 - 30\omega_4\omega_6^2\omega_3 cs^2 - 12v_2^2\omega_6\omega_3^2 + 9\omega_4\omega_6\omega_3^3 cs^2 - 12\omega_4 v_2^2\omega_6\omega_3 + 6\omega_4 v_2^2\omega_3^3 + 12\omega_6^2\omega_3 cs^2 + 6v_2^2\omega_6\omega_3^3 - 12\omega_4 v_2^2\omega_3^2 + 12\omega_6\omega_3^2 cs^2 - 2\omega_4\omega_6^2\omega_3^3 cs^2 + 12\omega_4\omega_3^2 cs^2 - v_2^2\omega_6^2\omega_3^3 - 6v_2^2\omega_6^2\omega_3^2 - 36\omega_4 v_2^2\omega_6^2\omega_3 - 18\omega_6^2\omega_3^2 cs^2 + 8\omega_4 v_2^2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3 + 22\omega_4\omega_6^2\omega_3^2 cs^2 - 6\omega_4\omega_3^3 cs^2 + 3\omega_6^2\omega_3^3 cs^2 + \omega_4 v_2^2\omega_6^2\omega_3^3 + 12\omega_4\omega_6\omega_3 cs^2)\frac{\rho}{12\omega_4\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho} = (-12\omega^2 cs^2 + 24\omega^2 v_2^2 - 2\omega^3 v_2^2 + \omega^3 cs^2 - 20cs^2 + 40v_2^2 + 30\omega cs^2 - 60\omega v_2^2)\frac{v_1 v_3}{\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho} = (-6\omega_4^3\omega_2^3\omega_6^2\omega_3^2 cs^2 + \omega_4^3\omega_2^3\omega_3^3 cs^2 - 2\omega_4^2\omega_2^3 v_2^2\omega_6\omega_3^2 - 2\omega_4^2\omega_2^3\omega_6\omega_3^2 cs^2 - 2\omega_4^3\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 + 7\omega_4^3\omega_2^2 v_2^2\omega_6^2\omega_3 - 2\omega_4^3\omega_2^3\omega_6\omega_3 cs^2 + \omega_4^2\omega_2^3 v_2^2\omega_6\omega_3^3 - 2\omega_4^3\omega_2^2\omega_6^2\omega_3^3 cs^2 + 3\omega_4^2\omega_2 v_2^2\omega_6^2\omega_3^3 + 12\omega_4^3\omega_2^3 v_2^2\omega_6^2\omega_3^2 + 3\omega_2^3 v_2^2\omega_6^2\omega_3^3 - 2\omega_4^2\omega_3^3\omega_6^2\omega_3 cs^2 - 21\omega_4^3\omega_2^3 v_2^2\omega_6^2\omega_3 + \omega_4^2\omega_2^3\omega_6\omega_3^3 cs^2 - 12\omega_4^3\omega_2^2 v_2^2\omega_6^2\omega_3^2 + \omega_4^3\omega_2^3\omega_6^2\omega_3^3 cs^2 - 2\omega_4^3\omega_2^3\omega_3^3 cs^2 + 6\omega_4^3\omega_2^2\omega_6^2\omega_3^3 cs^2 + 7\omega_4^3\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 2\omega_4^2\omega_2^3\omega_6^2\omega_3^3 cs^2 - 2\omega_4^3\omega_2^2\omega_6^2\omega_3 cs^2 - 2\omega_4^3\omega_2^3 v_2^2\omega_3^2 + 4\omega_4^2\omega_2^2 v_2^2\omega_6^2\omega_3^2 + 3\omega_4\omega_2^2 v_2^2\omega_6^2\omega_3^3 + 7\omega_4^2\omega_2^3 v_2^2\omega_6^2\omega_3 - 2\omega_4^3\omega_2^3\omega_6\omega_3^3 cs^2 + \omega_4^3\omega_2^2 v_2^2\omega_6\omega_3^3 - 8\omega_4^2\omega_2^2 v_2^2\omega_6^2\omega_3^3 - 2\omega_4^3\omega_2^2\omega_6\omega_3^2 cs^2 + \omega_4^3\omega_2^3 v_2^2\omega_3^3 + \omega_4^3\omega_2\omega_6^2\omega_3^3 cs^2 - 2\omega_4^3\omega_2^3 v_2^2\omega_6\omega_3 - 2\omega_4^3\omega_2^2 v_2^2\omega_6\omega_3^2 + \omega_4\omega_2^3\omega_6^2\omega_3^3 cs^2 - 2\omega_4^2\omega_2^2\omega_6^2\omega_3^2 cs^2 + 7\omega_4^2\omega_2^3 v_2^2\omega_6^2\omega_3^3 + 6\omega_4^3\omega_2^3\omega_6\omega_3^2 cs^2 +$

$4\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^2+10\omega_4^3\omega_2^3v_2^2\omega_6^2+4\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^2+6\omega_4^2\omega_2^3\omega_6^2\omega_3^2cs^2+6\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^2-12\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^2-8\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^3+6\omega_4^3\omega_2^2\omega_6^2\omega_3cs^2-2\omega_4^3\omega_2^3\omega_6^2cs^2-2\omega_4\omega_2^3\omega_6^2\omega_3^2cs^2+\omega_4^2\omega_2^2\omega_6^2\omega_3^2cs^2-2\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^3-2\omega_4^3\omega_2\omega_6^2\omega_3^2cs^2+\omega_4^3\omega_2^2\omega_6\omega_3^3cs^2-8\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^3)\frac{v_1v_3}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho}=(-2\omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^2-2\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^2-2\omega_4^3cs^2\omega_2\omega_6^2\omega_3^2+\omega_4^3cs^2\omega_2^2\omega_6\omega_3^3-2\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^3+6\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3+3\omega_4^3v_2^2\omega_6^2\omega_3^3+7\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3+\omega_4^2cs^2\omega_2^2\omega_6^2\omega_3^3+\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^3-2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^3+3\omega_4^2\omega_2v_2^2\omega_6^2\omega_3^3+12\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+3\omega_2^3v_2^2\omega_6^2\omega_3^3+\omega_4^3cs^2\omega_2\omega_6^2\omega_3^3+\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3^3-21\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3-2\omega_4^2cs^2\omega_2^3\omega_6\omega_3^2-12\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3^2-6\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3^2+\omega_4^2cs^2\omega_2^3\omega_6\omega_3^3+7\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3^3-2\omega_4cs^2\omega_2^3\omega_6^2\omega_3^2-2\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+4\omega_4^2\omega_2^2v_2^2\omega_6^2\omega_3^2+\omega_4^3cs^2\omega_2^3\omega_3^3+6\omega_4^3cs^2\omega_2^3\omega_6\omega_3^2+3\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^3+7\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3+\omega_4^3\omega_2^2v_2^2\omega_6\omega_3^3-2\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3-8\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^3-2\omega_4^3cs^2\omega_2^3\omega_6\omega_3^3-\omega_4^3cs^2\omega_2^3\omega_6^2\omega_3^3-2\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^3+6\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3+6\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3-2\omega_4^2cs^2\omega_2^3\omega_6^2\omega_3^3+7\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^3+4\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^3+10\omega_4^3\omega_2^3v_2^2\omega_6^2+4\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^2+6\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^2+6\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^2-12\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^2-8\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^3-2\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^3-2\omega_4^3cs^2\omega_2^2\omega_6^2\omega_3^3-2\omega_4^3cs^2\omega_2^3\omega_6^2-2\omega_4^3cs^2\omega_2^3\omega_6\omega_3-8\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^3)\frac{v_1v_3}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho}=(2\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^2-2\omega_4^3\omega_2^2cs^2\omega_6^2\omega_3+\omega_4^2\omega_2^3cs^2\omega_6\omega_3^3-2\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^3-6\omega_4^3\omega_2^3cs^2\omega_6^2\omega_3^2+3\omega_4^3v_2^2\omega_6^2\omega_3^3-2\omega_4^2\omega_2^3cs^2\omega_6\omega_3^2+3\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3-\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^3+\omega_4^3\omega_2^3cs^2\omega_6^2\omega_3^2+3\omega_4^2\omega_2v_2^2\omega_6^2\omega_3^3+8\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+3\omega_2^3v_2^2\omega_6^2\omega_3^3-7\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3-10\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3^2-2\omega_4^3\omega_2^2cs^2\omega_6^2\omega_3^3+6\omega_4^3\omega_2^3cs^2\omega_6^2\omega_3+6\omega_4^3\omega_2^2cs^2\omega_6^2\omega_3^2+7\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3^3+\omega_4^2\omega_2^2cs^2\omega_6^2\omega_3^3+2\omega_4^3\omega_2^3v_2^2\omega_3^3-2\omega_4^3\omega_2^3cs^2\omega_6\omega_3+4\omega_4^2\omega_2^2v_2^2\omega_6^2\omega_3^2+3\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3-2\omega_4^3\omega_2^3cs^2\omega_3^3-\omega_4^3\omega_2^2v_2^2\omega_6\omega_3^3-8\omega_4^2\omega_2^2v_2^2\omega_6^2\omega_3^3-\omega_4^3\omega_2^3v_2^2\omega_3^3+2\omega_4^3\omega_2^3v_2^2\omega_6\omega_3-2\omega_4^2\omega_2^2cs^2\omega_6^2\omega_3^2+2\omega_4^3\omega_2^2v_2^2\omega_6\omega_3^2-2\omega_4^3\omega_2^3cs^2\omega_6^2\omega_3+\omega_4^3\omega_2^3cs^2\omega_3^3+\omega_4^3\omega_2^2cs^2\omega_6\omega_3^3+\omega_4^3\omega_2cs^2\omega_6^2\omega_3^3-2\omega_4^3\omega_2^3cs^2\omega_6^2+6\omega_4^3\omega_2^3cs^2\omega_6^2\omega_3^2+7\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^3+4\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^2+2\omega_4^3\omega_2^3v_2^2\omega_6^2+4\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^2-2\omega_4^3\omega_2^3cs^2\omega_6\omega_3^3+\omega_4\omega_2^3cs^2\omega_6^2\omega_3^3-6\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^2-10\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^2-8\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^3-2\omega_4^3\omega_2cs^2\omega_6^2\omega_3^2-2\omega_4^2\omega_2^3cs^2\omega_6^2\omega_3^3+2\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^3-2\omega_4\omega_2^3cs^2\omega_6^2\omega_3^2+6\omega_4^3\omega_2^3cs^2\omega_6\omega_3^2-8\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^3)\frac{v_1v_3}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z\rho}=(2\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^2-2\omega_4^3\omega_2^3\omega_6\omega_3cs^2-2\omega_4^3\omega_2^2\omega_6^2\omega_3^3cs^2-2\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^3-2\omega_4^2\omega_2^3\omega_6^2\omega_3cs^2+3\omega_4^3v_2^2\omega_6^2\omega_3^3+\omega_4^3\omega_2^3\omega_3^3cs^2+3\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3-6\omega_4^3\omega_2^3\omega_6^2\omega_3^2cs^2-\omega_4^2\omega_2^3v_2^2\omega_6\omega_3^3-2\omega_4^3\omega_2^3\omega_6^2\omega_3^2cs^2+3\omega_4^2\omega_2v_2^2\omega_6^2\omega_3^3+8\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+3\omega_2^3v_2^2\omega_6^2\omega_3^3-7\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3+6\omega_4^3\omega_2^3\omega_6^2\omega_3^2cs^2-10\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+\omega_4^2\omega_2^3\omega_6\omega_3^3cs^2-2\omega_4^3\omega_2^3\omega_3^3cs^2+7\omega_4^3\omega_2^3v_2^2\omega_6^2\omega_3^2+\omega_4^3\omega_2^3\omega_6^2\omega_3^3cs^2-2\omega_4^3\omega_2^2\omega_6\omega_3^3cs^2+\omega_4^3\omega_2\omega_6^2\omega_3^3cs^2+2\omega_4^3\omega_2^3v_2^2\omega_3^3+4\omega_4^2\omega_2^2v_2^2\omega_6^2\omega_3^2-2\omega_4^2\omega_2^2\omega_6^2\omega_3^2cs^2+3\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^3+3\omega_4^2\omega_2^3v_2^2\omega_6\omega_3+\omega_4\omega_2^3\omega_6^2\omega_3^3cs^2-\omega_4^3\omega_2^2v_2^2\omega_6\omega_3^3-8\omega_4^2\omega_2^2v_2^2\omega_6^2\omega_3^3-\omega_4^3\omega_2^3v_2^2\omega_3^3-2\omega_4^2\omega_2^3\omega_6^2\omega_3^2cs^2-2\omega_4^3\omega_2^2\omega_6^2\omega_3^2cs^2+2\omega_4^3\omega_2^3v_2^2\omega_6\omega_3+2\omega_4^3\omega_2^2v_2^2\omega_6\omega_3^2-2\omega_4^3\omega_2^3\omega_6\omega_3^3cs^2+6\omega_4^3\omega_2^3\omega_6^2\omega_3cs^2+\omega_4^2\omega_2^2\omega_6^2\omega_3^3cs^2+7\omega_4^2\omega_2^3v_2^2\omega_6^2\omega_3^3-2\omega_4\omega_2^3\omega_6^2\omega_3^2cs^2+4\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^2-2\omega_4^3\omega_2^3\omega_6^2cs^2+2\omega_4^3\omega_2^3v_2^2\omega_6^2+4\omega_4\omega_2^3v_2^2\omega_6^2\omega_3^2-2\omega_4^3\omega_2\omega_6^2\omega_3^2cs^2+\omega_4^3\omega_2^2\omega_6\omega_3^3cs^2-6\omega_4^3\omega_2^3v_2^2\omega_6\omega_3^2-10\omega_4^3\omega_2^2v_2^2\omega_6^2\omega_3^2-8\omega_4^3\omega_2v_2^2\omega_6^2\omega_3^3)\frac{v_1v_3}{\omega_4^3\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}$ **at** $\frac{\partial^4v_1}{\partial x_1\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}=(-56\omega^2cs^2+52\omega^2v_2^2-5\omega^3v_2^2+4\omega^3cs^2-96cs^2+84v_2^2+144\omega cs^2-126\omega v_2^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}=(-32\omega_4^3\omega_6^2\omega_3^2cs^2-12\omega_4^3v_2^2\omega_3^2-5\omega_4^3v_2^2\omega_6^2\omega_3^3-12\omega_4^3\omega_6\omega_3cs^2+6\omega_4^3v_2^2\omega_3^3+48\omega_4^2v_2^2\omega_6^2\omega_3+40\omega_4^3v_2^2\omega_6^2\omega_3^2-12\omega_4^2\omega_6^2\omega_3^3cs^2-90\omega_4^3v_2^2\omega_6^2\omega_3+4\omega_4^3\omega_6^2\omega_3^3cs^2+48\omega_4^3v_2^2\omega_6^2-60\omega_4^2v_2^2\omega_6^2\omega_3^2+48\omega_4^2\omega_6^2\omega_3^2cs^2-12\omega_4^3\omega_6^2cs^2+24\omega_4^2v_2^2\omega_6^2\omega_3^3+6\omega_4^3\omega_3^3cs^2-24\omega_4^2\omega_6^2\omega_3cs^2+12v_2^2\omega_6^2\omega_3^3+12\omega_4^2v_2^2\omega_6\omega_3^3-12\omega_4^3\omega_6\omega_3^3cs^2+6\omega_4\omega_6^2\omega_3^3cs^2-12\omega_4^3v_2^2\omega_6\omega_3-24\omega_4^2\omega_6\omega_3^3cs^2-24\omega_4^2v_2^2\omega_6\omega_3^2+36\omega_4^3\omega_6\omega_3^3cs^2+24\omega_4v_2^2\omega_6^2\omega_3^2+36\omega_4^3v_2^2\omega_6\omega_3^2-12\omega_4^3\omega_3^3cs^2-30\omega_4v_2^2\omega_6^2\omega_3^3+36\omega_4^3\omega_6^2\omega_3cs^2+12\omega_4^2\omega_6\omega_3^3cs^2-12\omega_4^3v_2^2\omega_6\omega_3^3-12\omega_4\omega_6^2\omega_3^3cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}=(-24\omega_4^2cs^2\omega_6\omega_3^2-12\omega_4^3cs^2\omega_6^2-12\omega_4^3v_2^2\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3-5\omega_4^3v_2^2\omega_6^2\omega_3^3+6\omega_4^3v_2^2\omega_3^3+48\omega_4^2v_2^2\omega_6^2\omega_3+12\omega_4^2cs^2\omega_6\omega_3^3+40\omega_4^3v_2^2\omega_6^2\omega_3^2-90\omega_4^3v_2^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_3^2+48\omega_4^3v_2^2\omega_6^2-60\omega_4^2v_2^2\omega_6^2\omega_3^2+36\omega_4^3cs^2\omega_6\omega_3^2+24\omega_4^2v_2^2\omega_6^2\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^2+6\omega_4^3cs^2\omega_3^3-32\omega_4^3cs^2\omega_6^2\omega_3^2+12v_2^2\omega_6^2\omega_3^3+12\omega_4^2v_2^2\omega_6\omega_3^3-24\omega_4^2cs^2\omega_6^2\omega_3+4\omega_4^3cs^2\omega_6^2\omega_3^3-12\omega_4^3v_2^2\omega_6\omega_3-24\omega_4^2v_2^2\omega_6^2\omega_3^2+24\omega_4v_2^2\omega_6^2\omega_3^2-12\omega_4^2cs^2\omega_6^2\omega_3^3+36\omega_4^3v_2^2\omega_6\omega_3^2+48\omega_4^2cs^2\omega_6^2\omega_3^2-30\omega_4v_2^2\omega_6^2\omega_3^3-12\omega_4^3v_2^2\omega_6\omega_3^3+36\omega_4^3cs^2\omega_6^2\omega_3)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}=(-24\omega_4^2cs^2\omega_6^2\omega_3+12\omega_4^3v_2^2\omega_3^2-32\omega_4^3cs^2\omega_6^2\omega_3^2-5\omega_4^3v_2^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_3^2-6\omega_4^3v_2^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+16\omega_4^3v_2^2\omega_6^2\omega_3^2+4\omega_4^3cs^2\omega_6^2\omega_3^3-6\omega_4^3v_2^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6^2-12\omega_4^2cs^2\omega_6^2\omega_3^3-36\omega_4^2v_2^2\omega_6^2\omega_3^2+36\omega_4^3cs^2\omega_6^2\omega_3+24\omega_4^2v_2^2\omega_6^2\omega_3^3+48\omega_4^2cs^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3+12v_2^2\omega_6^2\omega_3^3-12\omega_4^2v_2^2\omega_6\omega_3^3-24\omega_4^2cs^2\omega_6\omega_3^2+12\omega_4^3v_2^2\omega_6\omega_3+12\omega_4^2cs^2\omega_6\omega_3^3+24\omega_4^2v_2^2\omega_6\omega_3^2+24\omega_4v_2^2\omega_6^2\omega_3^2+6\omega_4cs^2\omega_6^2\omega_3^3-36\omega_4^3v_2^2\omega_6\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^3-30\omega_4v_2^2\omega_6^2\omega_3^3+36\omega_4^3cs^2\omega_6\omega_3^2+12\omega_4^3v_2^2\omega_6\omega_3^3)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_1}=(-12\omega_4^3\omega_6\omega_3cs^2+12\omega_4^3v_2^2\omega_3^2-12\omega_4^2\omega_6^2\omega_3^3cs^2-5\omega_4^3v_2^2\omega_6^2\omega_3^3-6\omega_4^3v_2^2\omega_3^3-32\omega_4^3\omega_6^2\omega_3^2cs^2+16\omega_4^3v_2^2\omega_6^2\omega_3^2-6\omega_4^3v_2^2\omega_6^2\omega_3+48\omega_4^2\omega_6^2\omega_3^2cs^2-12\omega_4^3\omega_6^2cs^2-36\omega_4^2v_2^2\omega_6^2\omega_3^2+24\omega_4^2v_2^2\omega_6^2\omega_3^3+4\omega_4^3\omega_6^2\omega_3^3cs^2+6\omega_4\omega_6^2\omega_3^3cs^2+12v_2^2\omega_6^2\omega_3^3-24\omega_4^2\omega_6\omega_3^3cs^2-12\omega_4^2v_2^2\omega_6\omega_3^3-24\omega_4^2\omega_6^2\omega_3cs^2+6\omega_4^3\omega_3^3cs^2+12\omega_4^3v_2^2\omega_6\omega_3+24\omega_4^2v_2^2\omega_6\omega_3^2-12\omega_4^3\omega_6\omega_3^3cs^2+24\omega_4v_2^2\omega_6^2\omega_3^2+36\omega_4^3\omega_6^2\omega_3cs^2+12\omega_4^2\omega_6\omega_3^3cs^2-36\omega_4^3v_2^2\omega_6\omega_3^2-12\omega_4\omega_6^2\omega_3^3cs^2+36\omega_4^3\omega_6\omega_3^3cs^2-30\omega_4v_2^2\omega_6^2\omega_3^3+12\omega_4^3v_2^2\omega_6\omega_3^3-12\omega_4^3\omega_3^3cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_2}$ **at** $\frac{\partial^4v_2}{\partial x_1\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_zv_2}=(132-198\omega-5\omega^3+76\omega^2)\frac{v_1v_2\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2} = (6\omega_4\omega_2^3\omega_3^2 + 24\omega_4^3\omega_2^2\omega_3^3 - 36\omega_4^3\omega_2^3\omega_3 + 12\omega_2^3\omega_3^3 - 30\omega_4^3\omega_2^2\omega_3^2 - 30\omega_4\omega_2^3\omega_3^3 - 5\omega_4^3\omega_2^3\omega_3^3 + 18\omega_4^3\omega_2^2\omega_3 + 18\omega_4^2\omega_2\omega_3^3 + 12\omega_4^3\omega_2^3 + 18\omega_4\omega_2^2\omega_3^3 + 28\omega_4^3\omega_2^3\omega_3^2 + 12\omega_4^3\omega_3^3 + 12\omega_4^2\omega_2^2\omega_3^2 + 18\omega_4^2\omega_2^3\omega_3 - 42\omega_4^2\omega_2^2\omega_3^3 + 6\omega_4^3\omega_2\omega_3^2 - 30\omega_4^2\omega_2^3\omega_3^2 + 24\omega_4^2\omega_2^3\omega_3^3 - 30\omega_4^3\omega_2\omega_3^3)\frac{v_1v_2\rho v_3}{6\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_2}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_1\partial x_2^2\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} = (-56\omega^2cs^2 + 52\omega^2v_2^2 - 5\omega^3v_2^2 + 4\omega^3cs^2 - 96cs^2 + 84v_2^2 + 144\omega cs^2 - 126\omega v_2^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} = (-12\omega_2^3\omega_6\omega_3cs^2 + 48\omega_2^3v_2^2\omega_6^2\omega_3 + 40\omega_2^3v_2^2\omega_6^2\omega_3^2 - 12\omega_2^2\omega_6^2\omega_3^3cs^2 - 12\omega_2^3v_2^2\omega_3^2 - 32\omega_2^3\omega_6^2\omega_3^2cs^2 + 6\omega_2^3v_2^2\omega_3^3 - 5\omega_2^3v_2^2\omega_6^2\omega_3^3 + 48\omega_2^2\omega_6^2\omega_3^2cs^2 + 48\omega_2^3v_2^2\omega_6^2 + 24\omega_2^2v_2^2\omega_6^2\omega_3^3 - 90\omega_2^3v_2^2\omega_6^2\omega_3 + 4\omega_2^3\omega_6^2\omega_3^3cs^2 - 60\omega_2^2v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3\omega_6^2cs^2 - 12\omega_2^3v_2^2\omega_6\omega_3 + 6\omega_2\omega_6^2\omega_3^3cs^2 - 24\omega_2^2\omega_6\omega_3^2cs^2 + 12v_2^2\omega_6^2\omega_3^3 + 6\omega_2^3\omega_3^3cs^2 - 24\omega_2^2v_2^2\omega_6\omega_3^2 - 24\omega_2^2\omega_6^2\omega_3cs^2 + 12\omega_2^2v_2^2\omega_6\omega_3^3 - 12\omega_2^3\omega_6\omega_3^3cs^2 - 30\omega_2v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3\omega_3^2cs^2 + 36\omega_2^3\omega_6^2\omega_3cs^2 + 12\omega_2^2\omega_6\omega_3^3cs^2 - 12\omega_2^3v_2^2\omega_6\omega_3^3 - 12\omega_2\omega_6^2\omega_3^3cs^2 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 36\omega_2^3\omega_6\omega_3^2cs^2 + 36\omega_2^3v_2^2\omega_6\omega_3^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} = (48\omega_2^2v_2^2\omega_6^2\omega_3 + 40\omega_2^3v_2^2\omega_6^2\omega_3^2 - 24cs^2\omega_2^2\omega_6\omega_3^2 + 6cs^2\omega_2\omega_6^2\omega_3^3 + 6cs^2\omega_2^3\omega_3^3 - 12\omega_2^3v_2^2\omega_3^2 + 36cs^2\omega_2^3\omega_6^2\omega_3 + 6\omega_2^3v_2^2\omega_3^3 - 12cs^2\omega_2^3\omega_3^2 - 12cs^2\omega_2\omega_6^2\omega_3^2 - 5\omega_2^3v_2^2\omega_6^2\omega_3^3 + 12cs^2\omega_2^2\omega_6\omega_3^3 - 32cs^2\omega_2^3\omega_6^2\omega_3^2 + 48\omega_2^3v_2^2\omega_6^2 + 24\omega_2^2v_2^2\omega_6^2\omega_3^3 - 90\omega_2^3v_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6^2 + 4cs^2\omega_2^3\omega_6^2\omega_3^3 - 60\omega_2^2v_2^2\omega_6^2\omega_3^2 - 12\omega_2^3v_2^2\omega_6\omega_3 - 24cs^2\omega_2^2\omega_6^2\omega_3 - 12cs^2\omega_2^3\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3^3 - 24\omega_2^2v_2^2\omega_6\omega_3^2 + 36cs^2\omega_2^3\omega_6\omega_3^2 + 12\omega_2^2v_2^2\omega_6\omega_3^3 - 30\omega_2v_2^2\omega_6^2\omega_3^3 - 12cs^2\omega_2^3\omega_6\omega_3 - 12cs^2\omega_2^2\omega_6^2\omega_3^3 - 12\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 48cs^2\omega_2^2\omega_6^2\omega_3^2 + 36\omega_2^3v_2^2\omega_6\omega_3^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} = (-12\omega_2^3cs^2\omega_3^2 + 16\omega_2^3v_2^2\omega_6^2\omega_3^2 + 4\omega_2^3cs^2\omega_6^2\omega_3^3 + 12\omega_2^3v_2^2\omega_3^2 + 6\omega_2^3cs^2\omega_3^3 - 24\omega_2^2cs^2\omega_6^2\omega_3 - 6\omega_2^3v_2^2\omega_3^3 - 32\omega_2^3cs^2\omega_6^2\omega_3^2 - 5\omega_2^3v_2^2\omega_6^2\omega_3^3 + 36\omega_2^3cs^2\omega_6^2\omega_3 + 24\omega_2^2v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3cs^2\omega_6^2 + 48\omega_2^2cs^2\omega_6^2\omega_3^2 - 6\omega_2^3v_2^2\omega_6^2\omega_3 - 12\omega_2^2cs^2\omega_6^2\omega_3^3 - 36\omega_2^2v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3^3 + 12\omega_2^2cs^2\omega_6\omega_3^3 + 24\omega_2^2v_2^2\omega_6\omega_3^2 - 12\omega_2^3cs^2\omega_6\omega_3 - 12\omega_2^2v_2^2\omega_6\omega_3^3 - 24\omega_2^2cs^2\omega_6\omega_3^2 - 12\omega_2cs^2\omega_6^2\omega_3^3 - 30\omega_2v_2^2\omega_6^2\omega_3^3 + 36\omega_2^3cs^2\omega_6\omega_3^2 + 12\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 6\omega_2cs^2\omega_6^2\omega_3^3 - 36\omega_2^3v_2^2\omega_6\omega_3^2 - 12\omega_2^3cs^2\omega_6\omega_3^3)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y^2\mathrm{D}_z v_3} = (-32\omega_2^3\omega_6^2\omega_3^2cs^2 + 16\omega_2^3v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_3^2 - 12\omega_2^3\omega_6\omega_3cs^2 - 6\omega_2^3v_2^2\omega_3^3 - 12\omega_2^2\omega_6^2\omega_3^3cs^2 - 5\omega_2^3v_2^2\omega_6^2\omega_3^3 + 24\omega_2^2v_2^2\omega_6^2\omega_3^3 + 4\omega_2^3\omega_6^2\omega_3^3cs^2 - 12\omega_2^3\omega_6^2cs^2 + 48\omega_2^2\omega_6^2\omega_3^2cs^2 - 6\omega_2^3v_2^2\omega_6^2\omega_3 - 36\omega_2^2v_2^2\omega_6^2\omega_3^2 + 12\omega_2^3v_2^2\omega_6\omega_3 - 24\omega_2^2\omega_6^2\omega_3cs^2 + 12v_2^2\omega_6^2\omega_3^3 - 12\omega_2^3\omega_6\omega_3^3cs^2 + 24\omega_2^2v_2^2\omega_6\omega_3^2 + 6\omega_2\omega_6^2\omega_3^3cs^2 - 24\omega_2^2\omega_6\omega_3^2cs^2 + 6\omega_2^3\omega_3^3cs^2 - 12\omega_2^2v_2^2\omega_6\omega_3^3 + 36\omega_2^3\omega_6\omega_3^2cs^2 - 30\omega_2v_2^2\omega_6^2\omega_3^3 + 12\omega_2^3v_2^2\omega_6\omega_3^3 + 24\omega_2v_2^2\omega_6^2\omega_3^2 + 36\omega_2^3\omega_6^2\omega_3cs^2 - 12\omega_2^3\omega_3^2cs^2 - 36\omega_2^2v_2^2\omega_6\omega_3^2 + 12\omega_2^2\omega_6\omega_3^3cs^2 - 12\omega_2\omega_6^2\omega_3^2cs^2)\frac{v_1\rho}{12\omega_2^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z\rho}$ **at** $\frac{\partial^4\rho}{\partial x_2^3\partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^3\mathrm{D}_z\rho} = (24 - 72\omega^2cs^2 + 6\omega^3cs^2 - 120cs^2 - 36\omega - \omega^3 + 14\omega^2 + 180\omega cs^2)\frac{v_2v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^3\mathrm{D}_z\rho} = (6\omega_4^2\omega_6\omega_3^2 - 48\omega_4^3\omega_6^2\omega_3^2cs^2 - 12\omega_4^3v_2^2\omega_3^2 - 24\omega_4^3\omega_6\omega_3cs^2 + 6\omega_4^3v_2^2\omega_3^3 - 6\omega_4^3\omega_6^2\omega_3 - 3\omega_4^2\omega_6\omega_3^3 + 12\omega_4^2v_2^2\omega_6^2\omega_3 + 6\omega_4^3v_2^2\omega_6^2\omega_3^2 - 12\omega_4^2\omega_6^2\omega_3^3cs^2 - 30\omega_4^3v_2^2\omega_6^2\omega_3 + 6\omega_4^3\omega_6^2\omega_3^3cs^2 + 24\omega_4^3v_2^2\omega_6^2 + 7\omega_4^3\omega_6^2\omega_3^2 - 12\omega_4^2v_2^2\omega_6^2\omega_3^2 + 42\omega_4^2\omega_6^2\omega_3^2cs^2 - 36\omega_4^3\omega_6^2cs^2 + 6\omega_4^2v_2^2\omega_6^2\omega_3^3 - \omega_4^3\omega_6^2\omega_3^3 + 6\omega_4^3\omega_3^3cs^2 - 24\omega_4^2\omega_6^2\omega_3cs^2 + 6v_2^2\omega_6^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_4^2v_2^2\omega_6\omega_3^3 - 12\omega_4^3\omega_6\omega_3^3cs^2 + 6\omega_4^3\omega_6\omega_3^3 + 6\omega_4\omega_6^2\omega_3^3cs^2 - 24\omega_4^3v_2^2\omega_6\omega_3 - 12\omega_4^2\omega_6\omega_3^2cs^2 - 21\omega_4^3\omega_6\omega_3^2 - 12\omega_4^2v_2^2\omega_6\omega_3^2 + 6\omega_4^3\omega_3^2 + 12\omega_4^3\omega_6\omega_3 + 42\omega_4^3\omega_6\omega_3^2cs^2 + 6\omega_4v_2^2\omega_6^2\omega_3^2 + \omega_4^2\omega_6^2\omega_3^3 + 42\omega_4^3v_2^2\omega_6\omega_3^2 - 12\omega_4^3\omega_3^2cs^2 - 3\omega_4^2\omega_6^2\omega_3^2 - 12\omega_4v_2^2\omega_6^2\omega_3^3 + 78\omega_4^3\omega_6^2\omega_3cs^2 + 6\omega_4^2\omega_6\omega_3^3cs^2 - 12\omega_4^3v_2^2\omega_6\omega_3^3 - 12\omega_4\omega_6^2\omega_3^2cs^2)\frac{v_2v_3}{6\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^3\mathrm{D}_z\rho} = (-12\omega_4^2cs^2\omega_6\omega_3^2 + 6\omega_4^2\omega_6\omega_3^2 - 36\omega_4^3cs^2\omega_6^2 - 12\omega_4^3v_2^2\omega_3^2 - 24\omega_4^3cs^2\omega_6\omega_3 + 6\omega_4^3v_2^2\omega_3^3 - 6\omega_4^3\omega_6^2\omega_3 - 3\omega_4^2\omega_6\omega_3^3 + 12\omega_4^2v_2^2\omega_6^2\omega_3 + 6\omega_4^2cs^2\omega_6\omega_3^3 + 6\omega_4^3v_2^2\omega_6^2\omega_3^2 - 30\omega_4^3v_2^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_6\omega_3^3 + 6\omega_4cs^2\omega_6^2\omega_3^3 - 12\omega_4^3cs^2\omega_3^2 + 24\omega_4^3v_2^2\omega_6^2 + 7\omega_4^3\omega_6^2\omega_3^2 - 12\omega_4^2v_2^2\omega_6^2\omega_3^2 + 42\omega_4^3cs^2\omega_6\omega_3^2 + 6\omega_4^2v_2^2\omega_6^2\omega_3^3 - \omega_4^3\omega_6^2\omega_3^3 - 12\omega_4cs^2\omega_6^2\omega_3^3 + 6\omega_4^3cs^2\omega_3^3 - 48\omega_4^3cs^2\omega_6^2\omega_3^2 + 6v_2^2\omega_6^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_4^2v_2^2\omega_6\omega_3^3 - 24\omega_4^2cs^2\omega_6^2\omega_3 + 6\omega_4^3\omega_6\omega_3^3 + 6\omega_4^3cs^2\omega_6^2\omega_3^3 - 24\omega_4^3v_2^2\omega_6\omega_3 - 21\omega_4^3\omega_6\omega_3^2 - 12\omega_4^2v_2^2\omega_6\omega_3^2 + 6\omega_4^3\omega_3^2 + 12\omega_4^3\omega_6\omega_3 + 6\omega_4v_2^2\omega_6^2\omega_3^2 - 12\omega_4^2cs^2\omega_6^2\omega_3^3 + \omega_4^2\omega_6^2\omega_3^3 + 42\omega_4^3v_2^2\omega_6\omega_3^2 - 3\omega_4^2\omega_6^2\omega_3^2 + 42\omega_4^2cs^2\omega_6^2\omega_3^2 - 12\omega_4v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3v_2^2\omega_6\omega_3^3 + 78\omega_4^3cs^2\omega_6^2\omega_3)\frac{v_2v_3}{6\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^3\mathrm{D}_z\rho} = (6\omega_4^2\omega_6\omega_3^2 - 12\omega_4^2cs^2\omega_6^2\omega_3 + 12\omega_4^3v_2^2\omega_3^2 - 36\omega_4^3cs^2\omega_6^2\omega_3^2 - 36\omega_4^3cs^2\omega_3^2 - 6\omega_4^3v_2^2\omega_3^3 - 6\omega_4^3\omega_6^2\omega_3 - 3\omega_4^2\omega_6\omega_3^3 + 18\omega_4^3cs^2\omega_3^3 - 6\omega_4^3v_2^2\omega_6^2\omega_3^2 + 6\omega_4^3cs^2\omega_6^2\omega_3^3 + 12\omega_4^3v_2^2\omega_6^2\omega_3 - 12\omega_4^3cs^2\omega_6^2 - 12\omega_4^2cs^2\omega_6^2\omega_3^3 + 7\omega_4^3\omega_6^2\omega_3^2 - 6\omega_4^2v_2^2\omega_6^2\omega_3^2 + 36\omega_4^3cs^2\omega_6^2\omega_3 + 6\omega_4^2v_2^2\omega_6^2\omega_3^3 - \omega_4^3\omega_6^2\omega_3^3 + 36\omega_4^2cs^2\omega_6^2\omega_3^2 - 24\omega_4^3cs^2\omega_6\omega_3 + 6v_2^2\omega_6^2\omega_3^3 - 3\omega_4^3\omega_3^3 - 24\omega_4^2cs^2\omega_6\omega_3^2 + 6\omega_4^3\omega_6\omega_3^3 - 24\omega_4^3v_2^2\omega_6\omega_3 - 21\omega_4^3\omega_6\omega_3^2 + 12\omega_4^2cs^2\omega_6\omega_3^3 + 6\omega_4^3\omega_3^2 + 12\omega_4^3\omega_6\omega_3 + 6\omega_4v_2^2\omega_6^2\omega_3^2 + 6\omega_4cs^2\omega_6^2\omega_3^3 + \omega_4^2\omega_6^2\omega_3^3 + 12\omega_4^3v_2^2\omega_6\omega_3^2 - 24\omega_4^3cs^2\omega_6\omega_3^3 - 3\omega_4^2\omega_6^2\omega_3^2 - 12\omega_4cs^2\omega_6^2\omega_3^2 - 12\omega_4v_2^2\omega_6^2\omega_3^3 + 72\omega_4^3cs^2\omega_6\omega_3^2)\frac{v_2v_3}{6\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^3\mathrm{D}_z\rho} = (6\omega_4^2\omega_6\omega_3^2 - 24\omega_4^3\omega_6\omega_3 cs^2 + 12\omega_4^3 v_2^2\omega_3^2 - 12\omega_4^2\omega_6^2\omega_3^3 cs^2 - 6\omega_4^3 v_2^2\omega_3^3 - 6\omega_4^3\omega_6^2\omega_3 - 3\omega_4^2\omega_6\omega_3^3 - 36\omega_4^3\omega_6^2\omega_3^2 cs^2 - 6\omega_4^3 v_2^2\omega_6^2\omega_3^2 + 12\omega_4^3 v_2^2\omega_6^2\omega_3 + 36\omega_4^2\omega_6^2\omega_3^2 cs^2 - 12\omega_4^3\omega_6^2 cs^2 + 7\omega_4^3\omega_6^2\omega_3^2 - 6\omega_4^2 v_2^2\omega_6^2\omega_3^2 + 6\omega_4^2 v_2^2\omega_6^2\omega_3^3 + 6\omega_4^3\omega_6^2\omega_3^3 cs^2 - \omega_4^3\omega_6^2\omega_3^3 + 6\omega_4\omega_6^2\omega_3^3 cs^2 + 6v_2^2\omega_6^2\omega_3^3 - 24\omega_4^2\omega_6\omega_3^2 cs^2 - 3\omega_4^3\omega_3^3 + 6\omega_4^3\omega_6\omega_3^3 - 12\omega_4^2\omega_6^2\omega_3 cs^2 + 18\omega_4^3\omega_3^3 cs^2 - 24\omega_4^3 v_2^2\omega_6\omega_3 - 21\omega_4^3\omega_6\omega_3^2 - 24\omega_4^3\omega_6\omega_3^3 cs^2 + 6\omega_4^3\omega_3^2 + 12\omega_4^3\omega_6\omega_3 + 6\omega_4 v_2^2\omega_6^2\omega_3^2 + 36\omega_4^3\omega_6^2\omega_3 cs^2 + \omega_4^2\omega_6^2\omega_3^3 + 12\omega_4^2\omega_6\omega_3^3 cs^2 + 12\omega_4^3 v_2^2\omega_6\omega_3^2 - 12\omega_4\omega_6^2\omega_3^3 cs^2 - 3\omega_4^2\omega_6^2\omega_3^2 + 72\omega_4^3\omega_6\omega_3^2 cs^2 - 12\omega_4 v_2^2\omega_6^2\omega_3^3 - 36\omega_4^3\omega_3^2 cs^2)\frac{v_2 v_3}{6\omega_4^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_2^3 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^3\mathrm{D}_z v_2} = (12 - 56\omega^2 cs^2 - 12\omega^2 v_2^2 + 3\omega^3 v_2^2 + 4\omega^3 cs^2 - 96cs^2 - 18\omega - 12v_2^2 - \omega^3 + 8\omega^2 + 144\omega cs^2 + 18\omega v_2^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^3\mathrm{D}_z v_2} = (12\omega_4^2\omega_6\omega_3^2 - 32\omega_4^3\omega_6^2\omega_3^2 cs^2 - 12\omega_4^3 v_2^2\omega_3^2 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3\omega_6\omega_3 cs^2 + 6\omega_4^3 v_2^2\omega_3^3 - 6\omega_4^2\omega_6\omega_3^3 - 12\omega_4^2\omega_6^2\omega_3^3 cs^2 - 30\omega_4^3 v_2^2\omega_6^2\omega_3 + 4\omega_4^3\omega_6^2\omega_3^3 cs^2 + 24\omega_4^3 v_2^2\omega_6^2 + 3\omega_4^3\omega_6^2\omega_3^2 + 12\omega_4^2 v_2^2\omega_6^2\omega_3^2 + 48\omega_4^2\omega_6^2\omega_3^2 cs^2 - 12\omega_4^3\omega_6^2 cs^2 - \omega_4^3\omega_6^2\omega_3^3 + 6\omega_4^3\omega_3^3 cs^2 - 24\omega_4^2\omega_6^2\omega_3 cs^2 + 12v_2^2\omega_6^2\omega_3^3 + 12\omega_4^2 v_2^2\omega_6\omega_3^3 - 12\omega_4^3\omega_6\omega_3^3 cs^2 + 3\omega_4^3\omega_6\omega_3^3 + 6\omega_4\omega_6^2\omega_3^3 cs^2 - 12\omega_4^3 v_2^2\omega_6\omega_3 - 24\omega_4^2\omega_6\omega_3^2 cs^2 - 6\omega_4^3\omega_6\omega_3^2 - 24\omega_4^2 v_2^2\omega_6\omega_3^2 + 36\omega_4^3\omega_6\omega_3^2 cs^2 + 2\omega_4^2\omega_6^2\omega_3^3 + 36\omega_4^3 v_2^2\omega_6\omega_3^2 - 12\omega_4^3\omega_3^2 cs^2 - 6\omega_4^2\omega_6^2\omega_3^2 - 18\omega_4 v_2^2\omega_6^2\omega_3^3 + 36\omega_4^3\omega_6^2\omega_3 cs^2 + 12\omega_4^2\omega_6\omega_3^3 cs^2 - 12\omega_4^3 v_2^2\omega_6\omega_3^3 - 12\omega_4\omega_6^2\omega_3^2 cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^3\mathrm{D}_z v_2} = (-24\omega_4^2 cs^2\omega_6\omega_3^2 + 12\omega_4^2\omega_6\omega_3^2 - 12\omega_4^3 cs^2\omega_6^2 - 12\omega_4^3 v_2^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6\omega_3 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 + 6\omega_4^3 v_2^2\omega_3^3 - 6\omega_4^2\omega_6\omega_3^3 + 12\omega_4^2 cs^2\omega_6\omega_3^3 - 30\omega_4^3 v_2^2\omega_6^2\omega_3 - 12\omega_4^3 cs^2\omega_6\omega_3^3 + 6\omega_4 cs^2\omega_6^2\omega_3^3 - 12\omega_4^3 cs^2\omega_3^2 + 24\omega_4^3 v_2^2\omega_6^2 + 3\omega_4^3\omega_6^2\omega_3^2 + 12\omega_4^2 v_2^2\omega_6^2\omega_3^2 + 36\omega_4^3 cs^2\omega_6\omega_3^2 - \omega_4^3\omega_6^2\omega_3^3 - 12\omega_4 cs^2\omega_6^2\omega_3^3 + 6\omega_4^3 cs^2\omega_3^3 - 32\omega_4^3 cs^2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2\omega_3^3 + 12\omega_4^2 v_2^2\omega_6\omega_3^3 - 24\omega_4^2 cs^2\omega_6^2\omega_3 + 3\omega_4^3\omega_6\omega_3^3 + 4\omega_4^3 cs^2\omega_6^2\omega_3^3 - 12\omega_4^3 v_2^2\omega_6\omega_3 - 6\omega_4^3\omega_6\omega_3^2 - 24\omega_4^2 v_2^2\omega_6\omega_3^2 - 12\omega_4^2 cs^2\omega_6^2\omega_3^3 + 2\omega_4^2\omega_6^2\omega_3^3 + 36\omega_4^3 v_2^2\omega_6\omega_3^2 - 6\omega_4^2\omega_6^2\omega_3^2 + 48\omega_4^2 cs^2\omega_6^2\omega_3^2 - 18\omega_4 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3 v_2^2\omega_6\omega_3^3 + 36\omega_4^3 cs^2\omega_6^2\omega_3)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^3\mathrm{D}_z v_2} = (12\omega_4^2\omega_6\omega_3^2 - 24\omega_4^2 cs^2\omega_6^2\omega_3 + 12\omega_4^3 v_2^2\omega_3^2 - 32\omega_4^3 cs^2\omega_6^2\omega_3^2 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3 cs^2\omega_3^2 - 6\omega_4^3 v_2^2\omega_3^3 - 6\omega_4^2\omega_6\omega_3^3 + 6\omega_4^3 cs^2\omega_3^3 - 12\omega_4^3 v_2^2\omega_6^2\omega_3^2 + 4\omega_4^3 cs^2\omega_6^2\omega_3^3 + 30\omega_4^3 v_2^2\omega_6^2\omega_3 - 12\omega_4^3 cs^2\omega_6^2 - 12\omega_4^2 cs^2\omega_6^2\omega_3^3 - 24\omega_4^3 v_2^2\omega_6^2 + 3\omega_4^3\omega_6^2\omega_3^2 + 12\omega_4^2 v_2^2\omega_6^2\omega_3^2 + 36\omega_4^3 cs^2\omega_6^2\omega_3 - \omega_4^3\omega_6^2\omega_3^3 + 48\omega_4^2 cs^2\omega_6^2\omega_3^2 - 12\omega_4^3 cs^2\omega_6\omega_3 + 12v_2^2\omega_6^2\omega_3^3 + 12\omega_4^2 v_2^2\omega_6\omega_3^3 - 24\omega_4^2 cs^2\omega_6\omega_3^3 + 3\omega_4^3\omega_6\omega_3^3 + 12\omega_4^3 v_2^2\omega_6\omega_3 - 6\omega_4^3\omega_6\omega_3^2 + 12\omega_4^2 cs^2\omega_6\omega_3^3 - 24\omega_4^2 v_2^2\omega_6\omega_3^2 + 6\omega_4 cs^2\omega_6^2\omega_3^3 + 2\omega_4^2\omega_6^2\omega_3^3 - 12\omega_4^3 v_2^2\omega_6\omega_3^2 - 12\omega_4^3 cs^2\omega_6\omega_3^3 - 6\omega_4^2\omega_6^2\omega_3^2 - 12\omega_4 cs^2\omega_6^2\omega_3^2 - 18\omega_4 v_2^2\omega_6^2\omega_3^3 + 36\omega_4^3 cs^2\omega_6\omega_3^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^3\mathrm{D}_z v_2} = (12\omega_4^2\omega_6\omega_3^2 - 12\omega_4^3\omega_6\omega_3 cs^2 + 12\omega_4^3 v_2^2\omega_3^2 - 12\omega_4^2\omega_6^2\omega_3^3 cs^2 + 3\omega_4^3 v_2^2\omega_6^2\omega_3^3 - 6\omega_4^3 v_2^2\omega_3^3 - 6\omega_4^2\omega_6\omega_3^3 - 32\omega_4^3\omega_6^2\omega_3^2 cs^2 - 12\omega_4^3 v_2^2\omega_6^2\omega_3^2 + 30\omega_4^3 v_2^2\omega_6^2\omega_3 + 48\omega_4^2\omega_6^2\omega_3^2 cs^2 - 12\omega_4^3\omega_6^2 cs^2 - 24\omega_4^3 v_2^2\omega_6^2 + 3\omega_4^3\omega_6^2\omega_3^2 + 12\omega_4^2 v_2^2\omega_6^2\omega_3^2 + 4\omega_4^3\omega_6^2\omega_3^3 cs^2 - \omega_4^3\omega_6^2\omega_3^3 + 6\omega_4\omega_6^2\omega_3^3 cs^2 + 12v_2^2\omega_6^2\omega_3^3 - 24\omega_4^2\omega_6\omega_3^3 cs^2 + 12\omega_4^2 v_2^2\omega_6\omega_3^3 + 3\omega_4^3\omega_6\omega_3^3 + 6\omega_4^3\omega_6^2\omega_3^2 cs^2 - 6\omega_4^3 v_2^2\omega_6\omega_3^2 - 24\omega_4^2 v_2^2\omega_6\omega_3^2 - 12\omega_4^3\omega_6\omega_3^3 cs^2 + 36\omega_4^3\omega_6^2\omega_3 cs^2 + 2\omega_4^2\omega_6^2\omega_3^3 + 12\omega_4^2\omega_6\omega_3^3 cs^2 - 12\omega_4^3 v_2^2\omega_6\omega_3^2 - 12\omega_4\omega_6^2\omega_3^3 cs^2 - 6\omega_4^2\omega_6^2\omega_3^2 + 36\omega_4^3\omega_6\omega_3^2 cs^2 - 18\omega_4 v_2^2\omega_6^2\omega_3^3 - 12\omega_4^3\omega_3^2 cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^3\mathrm{D}_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_2^3 \partial x_3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^3\mathrm{D}_z v_3} = (36 - 56\omega^2 cs^2 - 20\omega^2 v_2^2 + \omega^3 v_2^2 + 4\omega^3 cs^2 - 96cs^2 - 54\omega - 36v_2^2 - \omega^3 + 20\omega^2 + 144\omega cs^2 + 54\omega v_2^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^3\mathrm{D}_z v_3} = (-12\omega_6\omega_3^3 cs^2 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - 48\omega_6^2 cs^2 - \omega_6^2\omega_3^3 - 36v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 - 12v_2^2\omega_3^2 + 48\omega_6\omega_3^2 cs^2 + 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 12v_2^2\omega_6\omega_3^3 + 90\omega_6^2\omega_3 cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 12\omega_3^2 cs^2 - 44\omega_6^2\omega_3^2 cs^2 - 8v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 - 36\omega_6\omega_3 cs^2 + 4\omega_6^2\omega_3^3 cs^2 + 6\omega_3^3 cs^2 + 9\omega_6\omega_3^3 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^3\mathrm{D}_z v_3} = (-12cs^2\omega_3^2 - 44cs^2\omega_6^2\omega_3^2 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 + 4cs^2\omega_6^2\omega_3^3 - \omega_6^2\omega_3^3 - 36v_2^2\omega_6\omega_3 + 6cs^2\omega_3^3 + 48v_2^2\omega_6\omega_3^2 - 48cs^2\omega_6^2 - 12v_2^2\omega_3^2 + 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 12v_2^2\omega_6\omega_3^3 + 90cs^2\omega_6^2\omega_3 + 12\omega_3^2 - 36cs^2\omega_6\omega_3 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 8v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 + 9\omega_6\omega_3^3 - 12cs^2\omega_6\omega_3^3 - 36\omega_6\omega_3^2 + 48cs^2\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^3\mathrm{D}_z v_3} =$
$(-36cs^2\omega_6\omega_3 + 12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - \omega_6^2\omega_3^3 - 60v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_3^2 - 30cs^2\omega_6\omega_3^3 - 60cs^2\omega_3^2 + 96cs^2\omega_6\omega_3^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 30cs^2\omega_3^3 + 12\omega_3^2 - 26cs^2\omega_6^2\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 14v_2^2\omega_6^2\omega_3^2 + 4cs^2\omega_6^2\omega_3^3 - 6\omega_3^3 + 9\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 + 18cs^2\omega_6^2\omega_3 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^3\mathrm{D}_z v_3} = (12v_2^2\omega_6^2 + 11\omega_6^2\omega_3^2 - 30\omega_6\omega_3^3 cs^2 - \omega_6^2\omega_3^3 - 60v_2^2\omega_6\omega_3 + 48v_2^2\omega_6\omega_3^2 + 12v_2^2\omega_3^2 + 18\omega_6^2\omega_3 cs^2 - 6v_2^2\omega_3^3 - 12\omega_6^2\omega_3 - 6v_2^2\omega_6\omega_3^3 + 96\omega_6\omega_3^2 cs^2 + 12\omega_3^2 + 24\omega_6\omega_3 + v_2^2\omega_6^2\omega_3^3 - 36\omega_6\omega_3 cs^2 - 14v_2^2\omega_6^2\omega_3^2 - 6\omega_3^3 - 60\omega_3^2 cs^2 - 26\omega_6^2\omega_3^2 cs^2 + 9\omega_6\omega_3^3 + 12v_2^2\omega_6^2\omega_3 + 4\omega_6^2\omega_3^3 cs^2 + 30\omega_3^3 cs^2 - 36\omega_6\omega_3^2)\frac{v_2\rho}{12\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3}$ **at** $\frac{\partial^4 v_3}{\partial t^2 \partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} = (-2 + 3\omega - \omega^2)\frac{3\rho v_3}{2\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} = (2\omega_4^3 + 8\omega_7\omega_4^2 - 4\omega_4^2 - 2\omega_7\omega_4^3 - 4\omega_7\omega_4 + 2\omega_7^2 - \omega_7^2\omega_4 - \omega_7^2\omega_4^2)\frac{\rho v_3}{2\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} = (-2-\omega_4^2+3\omega_4)\frac{3\rho v_3}{2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t^2\mathrm{D}_z^2 v_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1}$ **at** $\frac{\partial^4 v_1}{\partial t\partial x_1\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} = (34\omega^2cs^2-2\omega^3cs^2+60cs^2+\omega^3v_3^2-90\omega cs^2-2\omega^2v_3^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} = (3\omega_7^2\omega_4^3cs^2+12\omega_7\omega_4\omega_2cs^2-24\omega_7^2\omega_2v_3^2-\omega_7^2\omega_4^3v_3^2+12\omega_7\omega_4\omega_2v_3^2+12\omega_7^2\omega_2cs^2+9\omega_7\omega_4^3\omega_2v_3^2+22\omega_7^2\omega_4^2\omega_2cs^2+12\omega_4^2\omega_2cs^2-18\omega_7^2\omega_4^2cs^2+9\omega_7\omega_4^3\omega_2cs^2-10\omega_7^2\omega_4^2\omega_2v_3^2+12\omega_4^2\omega_2v_3^2+6\omega_7^2\omega_4^2v_3^2-30\omega_7^2\omega_4\omega_2cs^2+12\omega_7\omega_4^2cs^2-12\omega_7^2\omega_4v_3^2+36\omega_7^2\omega_4\omega_2v_3^2+12\omega_7^2\omega_4^2v_3^2+12\omega_7^2\omega_4cs^2-6\omega_7\omega_4^3cs^2-6\omega_4^3\omega_2v_3^2+\omega_7^2\omega_4^3\omega_2v_3^2-30\omega_7\omega_4^2\omega_2cs^2-6\omega_7\omega_4^3v_3^2-6\omega_4^3\omega_2cs^2-2\omega_7^2\omega_4^3\omega_2cs^2-30\omega_7\omega_4^2\omega_2v_3^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_2}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} = (12\omega_7^2cs^2\omega_2-24\omega_7^2\omega_2v_3^2+12\omega_7\omega_4cs^2\omega_2-\omega_7^2\omega_4^3v_3^2+12\omega_7\omega_4\omega_2v_3^2-18\omega_7^2\omega_4^2cs^2+9\omega_7\omega_4^3\omega_2v_3^2+9\omega_7\omega_4^3cs^2\omega_2+3\omega_7^2\omega_4^3cs^2-10\omega_7^2\omega_4^2\omega_2v_3^2+12\omega_4^2\omega_2v_3^2+12\omega_4^2cs^2\omega_2+6\omega_7^2\omega_4^2v_3^2+22\omega_7^2\omega_4^2cs^2\omega_2-12\omega_7^2\omega_4v_3^2-6\omega_7\omega_4^3cs^2+36\omega_7^2\omega_4\omega_2v_3^2+12\omega_7\omega_4^2v_3^2-30\omega_7^2\omega_4cs^2\omega_2-2\omega_7^2\omega_4^3cs^2\omega_2-6\omega_4^3cs^2\omega_2-6\omega_4^3\omega_2v_3^2+\omega_7^2\omega_4^3\omega_2v_3^2+12\omega_7^2\omega_4cs^2-6\omega_7\omega_4^3v_3^2-30\omega_7\omega_4^2cs^2\omega_2+12\omega_7\omega_4^2cs^2-30\omega_7\omega_4^2\omega_2v_3^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_2}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} = (-6\omega_7\omega_4^3cs^2-30\omega_7\omega_4^2\omega_2cs^2+24\omega_7^2\omega_2v_3^2-\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4\omega_2v_3^2-6\omega_4^3\omega_2cs^2-2\omega_7^2\omega_4^3\omega_2cs^2-30\omega_7^2\omega_4\omega_2cs^2-9\omega_7\omega_4^3\omega_2v_3^2+12\omega_7\omega_4^2cs^2+8\omega_7^2\omega_4^2\omega_2v_3^2-12\omega_4^2\omega_2v_3^2-6\omega_7^2\omega_4^2v_3^2+12\omega_7^2\omega_4cs^2+22\omega_7^2\omega_4^2\omega_2cs^2+12\omega_4^2\omega_2cs^2+12\omega_7^2\omega_4v_3^2-18\omega_7^2\omega_4^2cs^2+9\omega_7\omega_4^3\omega_2cs^2-36\omega_7^2\omega_4\omega_2v_3^2-12\omega_7\omega_4^2v_3^2+3\omega_7^2\omega_4^3cs^2+6\omega_4^3\omega_2v_3^2+\omega_7^2\omega_4^3\omega_2v_3^2+12\omega_7\omega_4\omega_2cs^2+6\omega_7\omega_4^3v_3^2+12\omega_7^2\omega_2cs^2+30\omega_7\omega_4^2\omega_2v_3^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_2}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_1} = (12\omega_7^2\omega_2cs^2+24\omega_7^2\omega_2v_3^2+3\omega_7^2\omega_4^3cs^2-\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4\omega_2v_3^2+12\omega_7\omega_4\omega_2cs^2+9\omega_7\omega_4^3\omega_2cs^2-9\omega_7\omega_4^3\omega_2v_3^2+8\omega_7^2\omega_4^2\omega_2v_3^2-12\omega_4^2\omega_2v_3^2+22\omega_7^2\omega_4^2\omega_2cs^2+12\omega_4^2\omega_2cs^2-6\omega_7^2\omega_4^2v_3^2-18\omega_7^2\omega_4^2cs^2+12\omega_7^2\omega_4v_3^2+12\omega_7^2\omega_4cs^2-30\omega_7^2\omega_4\omega_2cs^2-36\omega_7^2\omega_4\omega_2v_3^2+12\omega_7\omega_4^2cs^2-12\omega_7\omega_4^2v_3^2+6\omega_4^3\omega_2v_3^2+\omega_7^2\omega_4^3\omega_2v_3^2-6\omega_4^3\omega_2cs^2-2\omega_7^2\omega_4^3\omega_2cs^2+6\omega_7\omega_4^3v_3^2-6\omega_7\omega_4^3cs^2-30\omega_7\omega_4^2\omega_2cs^2+30\omega_7\omega_4^2\omega_2v_3^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_2}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3}$ **at** $\frac{\partial^4 v_3}{\partial t\partial x_1\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} = (-24+36\omega+\omega^3-14\omega^2)\frac{v_1\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} = (12\omega_4^2\omega_2^2-7\omega_7\omega_4^3\omega_2^2-6\omega_4^2\omega_2^3-6\omega_7\omega_4^3-6\omega_7\omega_4^2\omega_2+\omega_7\omega_4^3\omega_2^3+12\omega_7\omega_4^2\omega_2^2-6\omega_4^3\omega_2^2+12\omega_7\omega_4^3\omega_2-10\omega_7\omega_4^2\omega_2^3-12\omega_7\omega_2^3+3\omega_4^3\omega_2^3+24\omega_7\omega_4\omega_2^3-12\omega_7\omega_4\omega_2^2)\frac{v_1\rho v_3}{6\omega_7\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} = (6\omega_4^2\omega_2^2-6\omega_4^3-7\omega_4^2\omega_2^3+12\omega_4^3\omega_2-12\omega_2^3-7\omega_4^3\omega_2^2+\omega_4^3\omega_2^3-6\omega_4^2\omega_2+18\omega_4\omega_2^3)\frac{v_1\rho v_3}{6\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3} = C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_x\mathrm{D}_z^2 v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho} = (-14\omega^2v_1^2cs^2+56v_1^2v_3^2-84\omega v_1^2v_3^2-24\omega cs^4+\omega^3cs^2v_3^2+36\omega cs^2v_3^2-3\omega^3v_1^2v_3^2-24cs^2v_3^2-\omega^3cs^4-14\omega^2cs^2v_3^2+\omega^3v_1^2cs^2+16cs^4+36\omega v_1^2cs^2+10\omega^2cs^4-24v_1^2cs^2+34\omega^2v_1^2v_3^2)\frac{1}{4\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho} = (20\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2+\omega_7\omega_4^3\omega_5^2\omega_2^3cs^4+10\omega_7^2\omega_4^3\omega_5\omega_2^2v_3^2cs^2-12\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4-4\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2-4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2cs^2+10\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2+10\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^3cs^2+\omega_7^2\omega_4^3\omega_5^2\omega_2^3v_3^2cs^2-4\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2+4\omega_7\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2-8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2-2\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2cs^2-38\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2v_3^2-\omega_7^2\omega_4^3\omega_5^2\omega_2^3cs^4-4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2+4\omega_7\omega_4^2\omega_5^2\omega_2^2cs^4-4\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2cs^2+\omega_7\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2-3\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2+10\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2+4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2cs^2+12\omega_7^2\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2-4\omega_7^2\omega_4^3\omega_5^2v_3^2cs^2-2\omega_7\omega_4^3\omega_5^2\omega_2^2cs^4-4\omega_7\omega_4\omega_5^2v_1^2\omega_2^2v_3^2+4\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4+10\omega_7^2\omega_4^3\omega_5^2\omega_2v_3^2cs^2-36\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2+2\omega_7^2\omega_4^2\omega_5\omega_2^2v_3^2cs^2+10\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2-38\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2v_3^2+4\omega_7^2\omega_4^3\omega_5^2\omega_2^2cs^4-2\omega_7\omega_4^2\omega_5^2\omega_2^3cs^4+20\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^3v_3^2+\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3v_3^2cs^2+12\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2cs^2-4\omega_7\omega_4\omega_5^2v_1^2\omega_2^3cs^2-8\omega_7^2\omega_4\omega_5^2\omega_2^2v_3^2cs^2+2\omega_7^2\omega_4^3\omega_2^3v_3^2cs^2+2\omega_7^2\omega_4^3v_1^2\omega_2^3v_3^2-4\omega_7^2\omega_4^2\omega_5^2\omega_2v_3^2cs^2+20\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2-2\omega_7^2\omega_4^3\omega_5^2\omega_2^2cs^2+8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2cs^2-8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2+20\omega_7^2\omega_4^2\omega_5^2\omega_2v_3^2cs^2+20\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2-2\omega_7^2\omega_4^3\omega_5^2\omega_2^2cs^2+8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2cs^2-3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2+8\omega_7^2\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2+2\omega_7^2\omega_4^3\omega_2^3v_3^2cs^2+2\omega_7^2\omega_4^3v_1^2\omega_2^3v_3^2-4\omega_7^2\omega_4^2\omega_5^2\omega_2v_3^2cs^2+20\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2-2\omega_7^2\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2+20\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2-2\omega_7\omega_4^2\omega_5^2\omega_2^3v_3^2cs^2-4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2cs^2-2\omega_7^2\omega_4^3\omega_5\omega_2^2cs^4-8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2cs^2-3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2-8\omega_7^2\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2+4\omega_7^2\omega_4\omega_5^2\omega_2^2cs^4-2\omega_7^2\omega_4^2\omega_5\omega_2^3cs^4+2\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^3v_3^2-2\omega_7\omega_4^2\omega_5^2\omega_2^3v_3^2cs^2-4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2cs^2-2\omega_7^2\omega_4^3\omega_5\omega_2^2cs^4-2\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^3cs^2+20\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2v_3^2-3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2-3\omega_7^2\omega_4^3\omega_5\omega_2^2v_3^2cs^2-4\omega_7^2\omega_4^3\omega_5\omega_2v_3^2cs^2+4\omega_7^2\omega_4^2\omega_5\omega_2^2cs^4-4\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^2v_3^2+2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^2cs^2+4\omega_7^2\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2-$

$4\omega_7^2\omega_4^3\omega_2^2v_3^2cs^2 - 2\omega_7^2\omega_4\omega_5^2\omega_2^3cs^4 - 4\omega_7^2\omega_5^2v_1^2\omega_2^3cs^2 + 2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^2\omega_5\omega_2^2v_3^2cs^2 - 4\omega_7^2\omega_4^3v_1^2\omega_2^2v_3^2 - 3\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 + 2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 + 4\omega_7^2\omega_4^2\omega_5^2\omega_2cs^4 + 4\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^2cs^2 - 2\omega_7\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2 + \omega_7^2\omega_4^3\omega_5\omega_2^3cs^4 + \omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 + 20\omega_7^2\omega_4^3\omega_5^2v_1^2v_3^2 - 4\omega_7^2\omega_4^2\omega_5^2\omega_2^3v_3^2cs^2 + 20\omega_7^2\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2v_3^2 + 2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2)\frac{1}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho} = (20\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3cs^2\omega_5\omega_2v_3^2 + \omega_7\omega_4^3cs^4\omega_5^2\omega_2^3 + 4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2 - 4\omega_7\omega_4^2cs^2\omega_5^2v_1^2\omega_2^2 - 4\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7\omega_4cs^2\omega_5^2v_1^2\omega_2^2 - 4\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2v_3^2 + \omega_7\omega_4^3cs^2\omega_5^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^2 - 8\omega_7^2\omega_4^2cs^2\omega_5^2v_1^2\omega_2 + 10\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2 + 10\omega_7\omega_4^2cs^2\omega_5^2v_1^2\omega_2^3 - 2\omega_7\omega_4^3cs^4\omega_5^2\omega_2^2 - 8\omega_7^2\omega_4^3cs^2\omega_5^2\omega_2^2v_3^2 - 38\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^3v_3^2 - \omega_7^2\omega_4^3cs^4\omega_5^2\omega_2^3 - 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^2cs^2\omega_5\omega_2^2v_3^2 - 8\omega_7^2\omega_4^2cs^2\omega_5^2v_1^2\omega_2^3 - 3\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3v_3^2 + 4\omega_7\omega_4^2cs^4\omega_5^2\omega_2^2 - 2\omega_7\omega_4^3cs^2\omega_5^2\omega_2^2v_3^2 - 4\omega_4^2cs^2\omega_5^2v_1^2\omega_2^3 + 4\omega_7^2\omega_4^3cs^2\omega_5v_1^2\omega_2^3 - 4\omega_7\omega_4\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^3 - 4\omega_7^2\omega_4cs^2\omega_5^2v_1^2\omega_2^2 - 36\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 + 2\omega_7^2\omega_4^2cs^2\omega_5\omega_2^3v_3^2 + 10\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 - 38\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2v_3^2 - 2\omega_7^2\omega_4^3cs^4\omega_5^2\omega_2 - 2\omega_7\omega_4^2cs^4\omega_5^2\omega_2^3 + 12\omega_7^2\omega_4^2cs^2\omega_5^2v_1^2\omega_2^2 + 20\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2v_3^2 + 10\omega_7^2\omega_4cs^2\omega_5^2v_1^2\omega_2^3 + \omega_7^2\omega_4^3cs^2\omega_5^2\omega_2^3v_3^2 - 12\omega_7^2\omega_4^2cs^4\omega_5^2\omega_2^2 - 2\omega_7^2\omega_4^3cs^2\omega_5v_1^2\omega_2^2 + 2\omega_7^2\omega_4^3v_1^2\omega_2^3v_3^2 + 20\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 - 2\omega_7^2\omega_4^2cs^2\omega_5v_1^2\omega_2^3 + 4\omega_7\omega_4^2cs^2\omega_5^2\omega_2^2v_3^2 + 2\omega_4^3cs^2\omega_5^2v_1^2\omega_2^3 + 4\omega_7^2\omega_4^2cs^4\omega_5\omega_2^2 + 2\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^3v_3^2 + \omega_7^2\omega_4^3cs^2\omega_5^2v_1^2\omega_2^3 + 4\omega_7^2\omega_4cs^2\omega_5^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3cs^2\omega_5^2v_1^2\omega_2^2 - 4\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3cs^2\omega_5^2v_1^2\omega_2^2 - 2\omega_7^2\omega_4^2cs^4\omega_5\omega_2^3 + 2\omega_7^2\omega_4^3cs^2\omega_5^2\omega_2^3v_3^2 - 4\omega_7^2cs^2\omega_5^2v_1^2\omega_2^3 + 20\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2v_3^2 - 3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 - 3\omega_7^2\omega_4^3cs^2\omega_5\omega_2^3v_3^2 + 4\omega_7^2\omega_4^3cs^2\omega_5^2v_1^2\omega_2 - 8\omega_7^2\omega_4cs^2\omega_5^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^2v_3^2 - 2\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^3v_3^2 + 10\omega_7^2\omega_4^3cs^2\omega_5^2\omega_2v_3^2 - 2\omega_7^2\omega_4cs^4\omega_5^2\omega_2^3 + 2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 + 2\omega_7\omega_4^3cs^2\omega_5^2v_1^2\omega_2^2 - 4\omega_7^2\omega_4^3v_1^2\omega_2^2v_3^2 + \omega_7^2\omega_4^3cs^4\omega_5\omega_2^2 - 3\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 + 10\omega_7^2\omega_4^3cs^2\omega_5\omega_2^2v_3^2 + 2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 + 4\omega_7^2\omega_4cs^4\omega_5^2\omega_2^2 - 4\omega_7^2\omega_4^3cs^2\omega_2^2v_3^2 - 2\omega_7^2\omega_4^3cs^4\omega_5\omega_2^2 + 12\omega_7^2\omega_4^2cs^2\omega_5^2\omega_2^2v_3^2 + 20\omega_7^2\omega_4^3\omega_5^2v_1^2v_3^2 - 3\omega_7\omega_4^3cs^2\omega_5^2v_1^2\omega_2^3 + 20\omega_7^2\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2v_3^2)\frac{1}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho} = (2\omega_7\omega_4^3\omega_5^2\omega_2^2cs^2v_3^2 + 14\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^2\omega_5\omega_2^2cs^4 - 2\omega_7^2\omega_4^2\omega_5^2\omega_2^3cs^2v_3^2 - 2\omega_7^2\omega_4\omega_5^2\omega_2^3cs^4 + 2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^2cs^2 + 4\omega_7^2\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_5^2v_1^2\omega_2^3cs^2 - 10\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^2\omega_5\omega_2^2cs^2v_3^2 - 4\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^2cs^2 + 4\omega_7^2\omega_4^2\omega_5^2\omega_2cs^4 + \omega_7^2\omega_4^3\omega_5\omega_2^3cs^4 - 4\omega_7^2\omega_4^3\omega_5\omega_2cs^2v_3^2 + \omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 14\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^3v_3^2 + 2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 + 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 2\omega_7^2\omega_4^3\omega_5^2\omega_2cs^4 + 3\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3v_3^2 - 3\omega_7^2\omega_4^3\omega_5\omega_2^3cs^2v_3^2 + 4\omega_7\omega_4\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4\omega_5^2\omega_2^2cs^4 - 3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 2\omega_7^2\omega_4^2\omega_5^2\omega_2^3cs^4 - 28\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 + 10\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 - 14\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2v_3^2 - 2\omega_7^2\omega_4^3cs^2\omega_5^2v_1^2\omega_2^2v_3^2 + 8\omega_7^2\omega_4^3\omega_5\omega_2^3v_3^2cs^2 + 12\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 + 12\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2v_3^2 + 2\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2cs^2 - 4\omega_7^2\omega_4^2\omega_5^2\omega_2^3cs^4 + 2\omega_7^2\omega_4^2\omega_5\omega_2^3cs^2v_3^2 - 2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2cs^2 + 14\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 + 2\omega_7^2\omega_4^3\omega_5^2cs^2v_3^2 + 10\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 4\omega_7^2\omega_4^2\omega_5^2\omega_2^3cs^4 + 2\omega_7^2\omega_4^2\omega_5\omega_2^3cs^2v_3^2 - 2\omega_7\omega_4^3\omega_5^2\omega_2^3cs^4 - 2\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3\omega_5^2cs^2v_3^2 - 2\omega_7\omega_4^2\omega_5^2\omega_2^3cs^4 + 4\omega_7^2\omega_4^3\omega_5^2\omega_2^2cs^4 + 10\omega_7^2\omega_4^3\omega_5^2\omega_2cs^2v_3^2 - \omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3cs^2 + 8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2cs^2 - \omega_7\omega_4^3\omega_5^2\omega_2^3cs^2v_3^2 + 12\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2v_3^2 + 3\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 + 8\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^2v_3^2 - 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 4\omega_7^2\omega_4^2\omega_5v_1^2\omega_2^2v_3^2 - 12\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4 + \omega_7\omega_4^3\omega_5^2\omega_2^3cs^4 + \omega_7^2\omega_4^3\omega_5^2\omega_2^3cs^2v_3^2 - 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2cs^2 + 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2 + 10\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 4\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^2v_3^2 - 3\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 - 2\omega_7\omega_4^3\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 2\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2cs^2 + 4\omega_7^2\omega_4^3\omega_5^2v_1^2v_3^2 + 4\omega_7\omega_4^2\omega_5^2\omega_2^2cs^4 + 4\omega_7^2\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2v_3^2 + 10\omega_7^2\omega_4^3\omega_5\omega_2^2cs^2v_3^2 - \omega_7^2\omega_4^3\omega_5^2\omega_2^3cs^4)\frac{1}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_z^2\rho} = (-4\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 14\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 + \omega_7^2\omega_4^3\omega_5^2\omega_2^3v_3^2cs^2 - 8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 - 4\omega_7\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2 + 4\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 + 2\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2cs^2 + 4\omega_7\omega_4^2\omega_5^2\omega_2^2cs^4 - \omega_7^2\omega_4^3\omega_5^2\omega_2^3cs^4 - 10\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2 + 10\omega_7^2\omega_4^3\omega_5\omega_2^2v_3^2cs^2 - 12\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4 + \omega_7\omega_4^3\omega_5^2\omega_2^3cs^4 - 14\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 + 10\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 - 2\omega_7^2\omega_4^2\omega_5\omega_2^3v_3^2cs^2 + 4\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4 + 3\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3v_3^2 - \omega_7^2\omega_4^3\omega_5v_1^2\omega_2^3cs^2 + 8\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2cs^2 + 4\omega_7\omega_4\omega_5^2v_1^2\omega_2^3v_3^2 + 2\omega_7^2\omega_4^3\omega_2^2v_3^2cs^2 - 4\omega_7\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 - 28\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^2v_3^2 - 4\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2cs^2 - 10\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3v_3^2 - 14\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2v_3^2 - \omega_7\omega_4^3\omega_5^2\omega_2^3v_3^2cs^2 + 8\omega_7^2\omega_4^2\omega_5^2\omega_2^2v_3^2cs^2 + 10\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 12\omega_7^2\omega_4\omega_5^2v_1^2\omega_2^2v_3^2 + 4\omega_4^2\omega_5^2\omega_2^3cs^4 - 4\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2cs^2 - 2\omega_7^2\omega_4^3\omega_5^2\omega_2^2cs^2 - 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 + 14\omega_7^2\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2 - 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^2cs^2 - 2\omega_7^2\omega_4^3\omega_5^2\omega_2cs^4 + 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 + 2\omega_7^2\omega_4^3\omega_5^2\omega_2^3cs^4 + 2\omega_7^2\omega_4^2\omega_5^2v_1^2\omega_2^3cs^2 + 4\omega_7^2\omega_4^3\omega_5^2v_1^2v_3^2 + 4\omega_7^2\omega_4^2\omega_5^2\omega_2^2cs^4 - 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2v_3^2 + 4\omega_7^2\omega_5^2v_1^2\omega_2^3v_3^2 - 4\omega_7^2\omega_4^3\omega_5^2\omega_2^2v_3^2cs^2 + 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2^2v_3^2 - 2\omega_7^2\omega_4^2\omega_5^2\omega_2^3cs^4 + 2\omega_7^2\omega_4^3\omega_5^2v_1^2\omega_2^3cs^2 - 4\omega_7^2\omega_4^3\omega_2^2v_3^2cs^2 - 4\omega_7^2\omega_4^2\omega_5\omega_2^2v_3^2cs^2 - 4\omega_7^2\omega_5^2v_1^2\omega_2^3cs^2 + 4\omega_7^2\omega_4^3\omega_5^2v_1^2v_3^2 + 4\omega_7^2\omega_5^2v_1^2\omega_2^3v_3^2 + 4\omega_7^2\omega_4^3\omega_5v_1^2\omega_2v_3^2)\frac{1}{4\omega_7^2\omega_4^3\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1}$ **at** $\frac{\partial^4v_1}{\partial x_1^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1} = (-26\omega^2cs^2 - 126\omega v_3^2 + \omega^3cs^2 - 48cs^2 + 84v_3^2 - 4\omega^3v_3^2 + 72\omega cs^2 + 50\omega^2v_3^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1} =$
$(-78\omega_7^2\omega_4\omega_2^3v_3^2 - 6\omega_7^2\omega_4^3\omega_2^2cs^2 + 12\omega_7^2\omega_4^3v_3^2 + 22\omega_7^2\omega_4^2\omega_2^3v_3^2 + 24\omega_7^2\omega_4\omega_2^3cs^2 + 24\omega_7\omega_4^2\omega_2^3v_3^2 + 6\omega_4^3\omega_2^3cs^2 + \omega_7^2\omega_4^3\omega_2^3cs^2 - 12\omega_7^2\omega_4^2\omega_2cs^2 + 24\omega_7^2\omega_4\omega_2^2v_3^2 + 24\omega_7^2\omega_4^2\omega_2v_3^2 + 24\omega_7\omega_4^2\omega_2^3cs^2 + 6\omega_4^3\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_2^2v_3^2 - 48\omega_7^2\omega_4^2\omega_2^2v_3^2 - 12\omega_7\omega_4\omega_2^3v_3^2 - 12\omega_7^2\omega_2^3cs^2 - 12\omega_7\omega_4\omega_2^3cs^2 + 48\omega_7^2\omega_2^2v_3^2 + 12\omega_7^2\omega_4^2\omega_2^2cs^2 - 30\omega_7^2\omega_4^3\omega_2v_3^2 + 34\omega_7^2\omega_4^2\omega_2^2v_3^2 - 12\omega_4^2\omega_2^2v_3^2 - 6\omega_7\omega_4^3\omega_2^2cs^2 - 14\omega_7^2\omega_4^2\omega_2^2cs^2 - 12\omega_4^2\omega_2^2cs^2 - 6\omega_7\omega_4^3\omega_2^2v_3^2 + 6\omega_7^2\omega_4^3\omega_2cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1} =$
$(12\omega_7^2\omega_4^2cs^2\omega_2^2 - 6\omega_7\omega_4^3cs^2\omega_2^3 - 78\omega_7^2\omega_4\omega_2^3v_3^2 - 14\omega_7^2\omega_4^2cs^2\omega_2^3 - 12\omega_4^2cs^2\omega_2^3 + 12\omega_7^2\omega_4^3v_3^2 + 22\omega_7^2\omega_4^2\omega_2^3v_3^2 + 24\omega_7\omega_4^2\omega_2^3v_3^2 + 24\omega_7^2\omega_4\omega_2^2v_3^2 - 12\omega_7^2cs^2\omega_2^3 + 24\omega_7^2\omega_4^2\omega_2v_3^2 + 6\omega_4^3\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_2^2v_3^2 - 12\omega_7^2\omega_4^2cs^2\omega_2 - 12\omega_7\omega_4cs^2\omega_2^3 - 48\omega_7^2\omega_4^2\omega_2^2v_3^2 - 12\omega_7\omega_4^2\omega_2^3v_3^2 + 6\omega_4^3cs^2\omega_2^3 + \omega_7^2\omega_4^3cs^2\omega_2^3 + 48\omega_7^2\omega_2^3v_3^2 + 24\omega_7\omega_4^2cs^2\omega_2^3 - 6\omega_7^2\omega_4^3cs^2\omega_2^2 + 6\omega_7^2\omega_4^3cs^2\omega_2 - 30\omega_7^2\omega_4^3\omega_2v_3^2 + 34\omega_7^2\omega_4^2\omega_2^2v_3^2 - 12\omega_4^2\omega_2^2v_3^2 + 24\omega_7^2\omega_4cs^2\omega_2^3 - 6\omega_7\omega_4^3\omega_2^2v_3^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1} = (-18\omega_7^2\omega_4\omega_2^3v_3^2 - 6\omega_7\omega_4^3\omega_2^3cs^2 + 12\omega_7^2\omega_4^3v_3^2 - 14\omega_7^2\omega_4^2\omega_2^3cs^2 + 22\omega_7^2\omega_4^3\omega_2^2v_3^2 - 12\omega_4^2\omega_2^3cs^2 + 6\omega_7^2\omega_4^3\omega_2cs^2 - 24\omega_7\omega_4^2\omega_2^3v_3^2 - 12\omega_7^2\omega_2^3cs^2 + 24\omega_7^2\omega_4\omega_2^2v_3^2 - 12\omega_7\omega_4\omega_2^3cs^2 + 24\omega_7^2\omega_4^2\omega_2v_3^2 - 6\omega_4^3\omega_2^2v_3^2 - 4\omega_7^2\omega_4^3\omega_2^2v_3^2 + 12\omega_7^2\omega_4^2\omega_2^2cs^2 + 6\omega_4^3\omega_2^2cs^2 + \omega_7^2\omega_4^3\omega_2^3cs^2 - 48\omega_7^2\omega_4^2\omega_2^2v_3^2 -$

$12\omega_7^2\omega_4^2\omega_2 cs^2+12\omega_7\omega_4\omega_2^3v_3^2+24\omega_7\omega_4^2\omega_2^3cs^2-30\omega_7^2\omega_4^3\omega_2v_3^2+22\omega_7^2\omega_4^2\omega_2^3v_3^2-6\omega_7^2\omega_4^3\omega_2^2cs^2+12\omega_4^2\omega_2^3v_3^2+6\omega_7\omega_4^3\omega_2^2v_3^2+24\omega_7^2\omega_4\omega_2^3cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_1} = (-18\omega_7^2\omega_4\omega_2^3v_3^2+24\omega_7^2\omega_4\omega_2^3cs^2+12\omega_7^2\omega_4^3v_3^2+22\omega_7^2\omega_4^3\omega_2^2v_3^2-6\omega_7^2\omega_4^3\omega_2^2cs^2-24\omega_7\omega_4^2\omega_2^3v_3^2+24\omega_7\omega_4^2\omega_2^3cs^2+24\omega_7^2\omega_4\omega_2^2v_3^2+6\omega_4^3\omega_2^3cs^2+\omega_7^2\omega_4^3\omega_2^3cs^2+24\omega_7^2\omega_4^2\omega_2v_3^2-12\omega_7^2\omega_4^2\omega_2cs^2-6\omega_4^3\omega_2^2v_3^2-4\omega_7^2\omega_4^3\omega_2^2v_3^2-12\omega_7\omega_4\omega_2^3cs^2-48\omega_7^2\omega_4^2\omega_2^2v_3^2+12\omega_7\omega_4\omega_2^2v_3^2+12\omega_7^2\omega_4^2\omega_2^2cs^2-12\omega_7^2\omega_2^3cs^2-30\omega_7^2\omega_4^3\omega_2v_3^2-14\omega_7^2\omega_4^2\omega_2^3cs^2-12\omega_4^2\omega_2^3cs^2+22\omega_7^2\omega_4^2\omega_2^3v_3^2+12\omega_4^2\omega_2^3v_3^2+6\omega_7^2\omega_4^3\omega_2cs^2+6\omega_7\omega_4^3\omega_2^2v_3^2-6\omega_7\omega_4^3\omega_2^3cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^4v_3}{\partial x_1^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3} = (-26\omega^2cs^2+50\omega^2v_1^2+84v_1^2+\omega^3cs^2-4\omega^3v_1^2-48cs^2-126\omega v_1^2+72\omega cs^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3} = (34\omega_4^3\omega_5^2v_1^2\omega_2^2+6\omega_4\omega_5^2\omega_2^3cs^2+24\omega_4^2\omega_5^2v_1^2\omega_2-12\omega_4^3\omega_2^2cs^2-6\omega_4^3\omega_5\omega_2^3cs^2-4\omega_4^3\omega_5^2v_1^2\omega_2^3-12\omega_4\omega_5^2\omega_2^2cs^2+22\omega_4^2\omega_5^2v_1^2\omega_2^3+6\omega_4^3\omega_2^3cs^2+24\omega_4^3\omega_5^2\omega_2cs^2-12\omega_4^3\omega_5^2cs^2-48\omega_4^2\omega_5^2v_1^2\omega_2^2-78\omega_4^3\omega_5^2v_1^2\omega_2+24\omega_4^3\omega_5\omega_2^2cs^2-6\omega_4^2\omega_5^2\omega_2^3cs^2+6\omega_4^3v_1^2\omega_2^3-12\omega_4^3\omega_5\omega_2cs^2-12\omega_4^3v_1^2\omega_2^2-14\omega_4^3\omega_5^2\omega_2^2cs^2+12\omega_5^2v_1^2\omega_2^3-12\omega_4^3\omega_5v_1^2\omega_2+48\omega_4^3\omega_5^2v_1^2+24\omega_4^3\omega_5v_1^2\omega_2^2+12\omega_4^2\omega_5^2\omega_2^2cs^2-30\omega_4\omega_5^2v_1^2\omega_2^3-6\omega_4^3\omega_5v_1^2\omega_2^3+\omega_4^3\omega_5^2\omega_2^3cs^2+24\omega_4\omega_5^2v_1^2\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3} =$
$(34\omega_4^3\omega_5^2v_1^2\omega_2^2-6\omega_4^2cs^2\omega_5^2\omega_2^3+24\omega_4^2\omega_5^2v_1^2\omega_2+24\omega_4^3cs^2\omega_5^2\omega_2-4\omega_4^3\omega_5^2v_1^2\omega_2^3+12\omega_4^2cs^2\omega_5^2\omega_2^2+22\omega_4^2\omega_5^2v_1^2\omega_2^3-14\omega_4^3cs^2\omega_5^2\omega_2^2-48\omega_4^2\omega_5^2v_1^2\omega_2^2-78\omega_4^3\omega_5^2v_1^2\omega_2+\omega_4^3cs^2\omega_5^2\omega_2^3+6\omega_4^3v_1^2\omega_2^3+6\omega_4cs^2\omega_5^2\omega_2^3-12\omega_4^3cs^2\omega_5^2+6\omega_4^3cs^2\omega_2^3-6\omega_4^3cs^2\omega_5\omega_2^3-12\omega_4cs^2\omega_5^2\omega_2^2-12\omega_4^3v_1^2\omega_2^2+24\omega_4^3cs^2\omega_5\omega_2^2-12\omega_4^3cs^2\omega_2^2+12\omega_5^2v_1^2\omega_2^3-12\omega_4^3\omega_5v_1^2\omega_2+48\omega_4^3\omega_5^2v_1^2-12\omega_4^3cs^2\omega_5\omega_2+24\omega_4^3\omega_5v_1^2\omega_2^2-30\omega_4\omega_5^2v_1^2\omega_2^3-6\omega_4^3\omega_5v_1^2\omega_2^3+24\omega_4\omega_5^2v_1^2\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3} = (22\omega_4^3\omega_5^2v_1^2\omega_2^2+24\omega_4^2\omega_5^2v_1^2\omega_2+12\omega_4^2\omega_5^2\omega_2^2cs^2+\omega_4^3\omega_5^2\omega_2^3cs^2-4\omega_4^3\omega_5^2v_1^2\omega_2^3+22\omega_4^2\omega_5^2v_1^2\omega_2^3-6\omega_4^2\omega_5^2\omega_2^3cs^2-12\omega_4^3\omega_5\omega_2cs^2-48\omega_4^2\omega_5^2v_1^2\omega_2^2-18\omega_4^3\omega_5^2v_1^2\omega_2-14\omega_4^3\omega_5^2\omega_2^2cs^2+6\omega_4^3\omega_2^2cs^2-6\omega_4^2v_1^2\omega_2^3-12\omega_4\omega_5^2\omega_2^2cs^2+24\omega_4^3\omega_5^2\omega_2cs^2-12\omega_4^3\omega_5^2cs^2+12\omega_4^3v_1^2\omega_2^2+12\omega_5^2v_1^2\omega_2^3+12\omega_4^3\omega_5v_1^2\omega_2+24\omega_4^3\omega_5\omega_2^2cs^2-24\omega_4^3\omega_5v_1^2\omega_2^2-30\omega_4\omega_5^2v_1^2\omega_2^3-12\omega_4^3\omega_2^2cs^2+6\omega_4\omega_5^2\omega_2^3cs^2+6\omega_4^3\omega_5v_1^2\omega_2^3-6\omega_4^3\omega_5\omega_2^2cs^2+24\omega_4\omega_5^2v_1^2\omega_2^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x^2\mathrm{D}_z^2v_3} = (22\omega_4^3\omega_5^2v_1^2\omega_2^2-6\omega_4^3\omega_5\omega_2^3cs^2+24\omega_4^2\omega_5^2v_1^2\omega_2-4\omega_4^3\omega_5^2v_1^2\omega_2^3-12\omega_4^3\omega_2^2cs^2+6\omega_4\omega_5^2\omega_2^3cs^2+22\omega_4^2\omega_5^2v_1^2\omega_2^3+24\omega_4^3\omega_5\omega_2^2cs^2+6\omega_4^3\omega_2^3cs^2-12\omega_4\omega_5^2\omega_2^2cs^2-48\omega_4^2\omega_5^2v_1^2\omega_2^2-18\omega_4^3\omega_5^2v_1^2\omega_2+24\omega_4^3\omega_5^2\omega_2cs^2-12\omega_4^3\omega_5^2cs^2-6\omega_4^3v_1^2\omega_2^3-14\omega_4^3\omega_5^2\omega_2^2cs^2-6\omega_4^2\omega_5^2\omega_2^2cs^2+12\omega_4^3v_1^2\omega_2^2-12\omega_4^3\omega_5\omega_2cs^2+12\omega_5^2v_1^2\omega_2^3+12\omega_4^3\omega_5v_1^2\omega_2+\omega_4^3\omega_5^2\omega_2^3cs^2-24\omega_4^3\omega_5v_1^2\omega_2^2-30\omega_4\omega_5^2v_1^2\omega_2^3+6\omega_4^3\omega_5v_1^2\omega_2^3+24\omega_4\omega_5^2v_1^2\omega_2^2+12\omega_4^2\omega_5^2\omega_2^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_5^2\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2}$ **at** $\frac{\partial^4v_2}{\partial t\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2} = (34\omega^2cs^2-2\omega^3cs^2+60cs^2+\omega^3v_3^2-90\omega cs^2-2\omega^2v_3^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2} = (3\omega_7^2\omega_4^3cs^2-30\omega_7\omega_4^2\omega_3cs^2-6\omega_4^3\omega_3v_3^2+\omega_7^2\omega_4^3\omega_3v_3^2-\omega_7^2\omega_4^3v_3^2-30\omega_7\omega_4^2\omega_3v_3^2-6\omega_4^3\omega_3cs^2-2\omega_7^2\omega_4^3\omega_3cs^2-30\omega_7^2\omega_4\omega_3cs^2-18\omega_7^2\omega_4^2cs^2+36\omega_7^2\omega_4\omega_3v_3^2+6\omega_7^2\omega_4^2v_3^2+22\omega_7^2\omega_4^2\omega_3cs^2+12\omega_4^2\omega_3cs^2+9\omega_7\omega_4^3\omega_3v_3^2+12\omega_7\omega_4^2cs^2-12\omega_7^2\omega_4v_3^2-10\omega_7^2\omega_4^2\omega_3v_3^2+12\omega_4^2\omega_3v_3^2+9\omega_7\omega_4^3\omega_3cs^2+12\omega_7\omega_4^2v_3^2+12\omega_7^2\omega_4cs^2-6\omega_7\omega_4^3cs^2+12\omega_7\omega_4\omega_3cs^2-24\omega_7^2\omega_3v_3^2-6\omega_7\omega_4^3v_3^2+12\omega_7\omega_4\omega_3v_3^2+12\omega_7^2\omega_3cs^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2} = (-30\omega_7\omega_4^2cs^2\omega_3-6\omega_4^3\omega_3v_3^2+\omega_7^2\omega_4^3\omega_3v_3^2-6\omega_4^3cs^2\omega_3-2\omega_7^2\omega_4^3cs^2\omega_3-\omega_7^2\omega_4^3v_3^2-30\omega_7\omega_4^2\omega_3v_3^2-18\omega_7^2\omega_4^2cs^2-30\omega_7^2\omega_4cs^2\omega_3+3\omega_7^2\omega_4^3cs^2+36\omega_7^2\omega_4\omega_3v_3^2+6\omega_7^2\omega_4^2v_3^2+9\omega_7\omega_4^3\omega_3v_3^2-12\omega_7^2\omega_4v_3^2+22\omega_7^2\omega_4^2cs^2\omega_3+12\omega_4^2cs^2\omega_3-10\omega_7^2\omega_4^2\omega_3v_3^2+12\omega_4^2\omega_3v_3^2-6\omega_7\omega_4^3cs^2+12\omega_7\omega_4^2v_3^2+9\omega_7\omega_4^3cs^2\omega_3+12\omega_7\omega_4cs^2\omega_3+12\omega_7^2\omega_4cs^2-24\omega_7^2\omega_3v_3^2-6\omega_7\omega_4^3v_3^2+12\omega_7^2cs^2\omega_3+12\omega_7\omega_4^2cs^2+12\omega_7\omega_4\omega_3v_3^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2} = (-6\omega_7\omega_4^3cs^2-30\omega_7^2\omega_4cs^2\omega_3+6\omega_4^3\omega_3v_3^2+\omega_7^2\omega_4^3\omega_3v_3^2-\omega_7^2\omega_4^3v_3^2+30\omega_7\omega_4^2\omega_3v_3^2-30\omega_7\omega_4^2cs^2\omega_3+12\omega_7\omega_4^2cs^2-6\omega_4^3cs^2\omega_3-36\omega_7^2\omega_4\omega_3v_3^2-2\omega_7^2\omega_4^3cs^2\omega_3-6\omega_7^2\omega_4^2v_3^2+12\omega_7^2\omega_4cs^2+12\omega_7\omega_4cs^2\omega_3-9\omega_7\omega_4^3\omega_3v_3^2+12\omega_7^2\omega_4v_3^2-18\omega_7^2\omega_4^2cs^2+8\omega_7^2\omega_4^2\omega_3v_3^2-12\omega_4^2\omega_3v_3^2+12\omega_7^2cs^2\omega_3-12\omega_7\omega_4^2v_3^2+3\omega_7^2\omega_4^3cs^2+22\omega_7^2\omega_4^2cs^2\omega_3+12\omega_4^2cs^2\omega_3+24\omega_7^2\omega_3v_3^2+6\omega_7\omega_4^3v_3^2-12\omega_7\omega_4\omega_3v_3^2+9\omega_7\omega_4^3cs^2\omega_3)\frac{\rho}{12\omega_7^2\omega_4^3\omega_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_2} = (6\omega_4^3\omega_3v_3^2+\omega_7^2\omega_4^3\omega_3v_3^2-6\omega_4^3\omega_3cs^2-2\omega_7^2\omega_4^3\omega_3cs^2+3\omega_7^2\omega_4^3cs^2-\omega_7^2\omega_4^3v_3^2-30\omega_7\omega_4^2\omega_3cs^2+30\omega_7\omega_4^2\omega_3v_3^2-30\omega_7^2\omega_4\omega_3cs^2-36\omega_7^2\omega_4\omega_3v_3^2-6\omega_7^2\omega_4^2v_3^2-18\omega_7^2\omega_4^2cs^2+9\omega_7\omega_4^3\omega_3cs^2-9\omega_7\omega_4^3\omega_3v_3^2+12\omega_7^2\omega_4v_3^2+12\omega_7^2\omega_4cs^2+8\omega_7^2\omega_4^2\omega_3v_3^2-12\omega_4^2\omega_3v_3^2+22\omega_7^2\omega_4^2\omega_3cs^2+12\omega_4^2\omega_3cs^2+12\omega_7\omega_4^2cs^2-12\omega_7\omega_4^2v_3^2+12\omega_7^2\omega_3cs^2+24\omega_7^2\omega_3v_3^2+6\omega_7\omega_4^3v_3^2-6\omega_7\omega_4^3cs^2-12\omega_7\omega_4\omega_3v_3^2+12\omega_7\omega_4\omega_3cs^2)\frac{\rho}{12\omega_7^2\omega_4^3\omega_3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^4v_3}{\partial t\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3} = (-24+36\omega+\omega^3-14\omega^2)\frac{v_2\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3} = (-6\omega_7\omega_4^3-12\omega_7\omega_4\omega_3^2+24\omega_7\omega_4\omega_3^3+12\omega_7\omega_4^3\omega_3-10\omega_7\omega_4^2\omega_3^3+3\omega_4^3\omega_3^3-12\omega_7\omega_3^3+12\omega_7\omega_4^2\omega_3^2-6\omega_4^3\omega_3^2-6\omega_4^2\omega_3^3-6\omega_7\omega_4^2\omega_3+$

$\omega_7\omega_4^3\omega_3^3+12\omega_4^2\omega_3^2-7\omega_7\omega_4^3\omega_3^2)\frac{v_2\rho v_3}{6\omega_7\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}=C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}=(-6\omega_4^3+18\omega_4\omega_3^3+\omega_4^3\omega_3^3-6\omega_4^2\omega_3-12\omega_3^3-7\omega_4^3\omega_3^2-7\omega_4^2\omega_3^3+12\omega_4^3\omega_3+6\omega_4^2\omega_3^2)\frac{v_2\rho v_3}{6\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}=C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_y\mathrm{D}_z^2v_3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}=(-12\omega^2cs^2-60\omega v_3^2+\omega^3cs^2-20cs^2+40v_3^2-2\omega^3v_3^2+30\omega cs^2+24\omega^2v_3^2)\frac{v_1v_2}{\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}=(\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2+\omega_7^4\omega_2^3\omega_3^3cs^2-2\omega_7\omega_4^2\omega_2^3\omega_3^3cs^2+3\omega_7^2\omega_4^3\omega_2\omega_3^2v_3^2-2\omega_7^2\omega_4^2\omega_2\omega_3^3cs^2-2\omega_7\omega_4^3\omega_2^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2+3\omega_7^2\omega_4^3\omega_2^2\omega_3v_3^2-2\omega_7^2\omega_4^2\omega_2^3\omega_3^3v_3^2+\omega_4^3\omega_2^3\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^3\omega_3^2v_3^2-2\omega_7\omega_4^3\omega_2^3\omega_3^3cs^2+6\omega_7^2\omega_4^2\omega_2^3\omega_3^2cs^2+4\omega_7^2\omega_4^2\omega_2\omega_3^3v_3^2+\omega_7\omega_4^3\omega_2^3\omega_3^2v_3^2-2\omega_4^2\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_4\omega_2^2\omega_3^3cs^2+12\omega_7^2\omega_4^2\omega_2^3\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_2\omega_3^2v_3^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2+6\omega_7\omega_4^2\omega_2^3\omega_3^3cs^2+\omega_7\omega_4^3\omega_2^3\omega_3^3cs^2-2\omega_4^2\omega_2^3\omega_3^3cs^2+7\omega_7^2\omega_4\omega_2^2\omega_3^3cs^2+3\omega_7^2\omega_4^3\omega_2^2v_3^2+7\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2+6\omega_7\omega_4^2\omega_2^3\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_2\omega_3^3cs^2-2\omega_7^2\omega_4^2\omega_2^3\omega_3^2cs^2+\omega_7\omega_4^3\omega_2^2\omega_3^3cs^2+7\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_2^3\omega_3^3cs^2-8\omega_7^2\omega_4^3\omega_2^3\omega_3v_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2+4\omega_7^2\omega_4^2\omega_2^2\omega_3^3v_3^2+3\omega_7^2\omega_4^3\omega_3^3v_3^2+\omega_7\omega_4^3\omega_2^2\omega_3^3v_3^2-2\omega_7^2\omega_4\omega_2^3\omega_3^3cs^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2+10\omega_7^2\omega_2^3\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_2^3\omega_3cs^2-2\omega_7\omega_4^2\omega_2^2\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2-2\omega_7\omega_4\omega_2^3\omega_3^3cs^2-2\omega_7^2\omega_4^2\omega_2^3\omega_3cs^2+6\omega_7^2\omega_4^2\omega_2^2\omega_3^3cs^2-21\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^2\omega_3^3cs^2+\omega_7^2\omega_4^3\omega_2^2\omega_3^3cs^2-2\omega_7\omega_4\omega_2^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_2^2\omega_3^3v_3^2+6\omega_7^2\omega_4\omega_2^3\omega_3^3cs^2+4\omega_7^2\omega_4^2\omega_2^3\omega_3v_3^2)\frac{v_1v_2}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}=(3\omega_7^2\omega_4^3\omega_2\omega_3^2v_3^2-2\omega_7^2cs^2\omega_2^3\omega_3^3-2\omega_7\omega_4^3\omega_2^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2+3\omega_7^2\omega_4^3\omega_2^2\omega_3v_3^2-2\omega_7^2\omega_4cs^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3v_3^2+\omega_4^3\omega_2^3\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^3\omega_3^2v_3^2+\omega_7^2\omega_4^3cs^2\omega_2\omega_3^3+4\omega_7^2\omega_4^2\omega_2\omega_3^3v_3^2+\omega_7\omega_4^3\omega_2^3\omega_3^2v_3^2-2\omega_4^2\omega_2^3\omega_3^3v_3^2+12\omega_7^2\omega_4^2\omega_2^3\omega_3^3v_3^2-2\omega_7\omega_4cs^2\omega_2^3\omega_3^3-2\omega_7^2\omega_4cs^2\omega_2^3\omega_3^3-8\omega_7^2\omega_4^3\omega_2\omega_3^3v_3^2-2\omega_7^2\omega_4^2cs^2\omega_2\omega_3^3+7\omega_7^2\omega_4\omega_2^2\omega_3^3v_3^2+3\omega_7^2\omega_4^3\omega_2^3v_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^2v_3^2+6\omega_7\omega_4^2\omega_2^3\omega_3^3v_3^2+6\omega_7^2\omega_4cs^2\omega_2^3\omega_3^3+7\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2+\omega_7^2\omega_4^3cs^2\omega_2^3\omega_3^3+\omega_4^3cs^2\omega_2^3\omega_3^3-2\omega_7\omega_4^2cs^2\omega_2^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3-8\omega_7^2\omega_4^3\omega_2^3\omega_3v_3^2+\omega_7\omega_4^3cs^2\omega_2^3\omega_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^2\omega_2^3\omega_3^3+4\omega_7^2\omega_4^2\omega_2^2\omega_3^3v_3^2+3\omega_7^2\omega_4^3\omega_3^3v_3^2+\omega_7\omega_4^3\omega_2^2\omega_3^3v_3^2-2\omega_7^2\omega_4^2cs^2\omega_2^3\omega_3-2\omega_7\omega_4^3cs^2\omega_2^3\omega_3^3+10\omega_7^2\omega_2^3\omega_3^3v_3^2+6\omega_7^2\omega_4^2cs^2\omega_2^2\omega_3^3-2\omega_7\omega_4^2\omega_2^2\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_2^2\omega_3^2v_3^2+6\omega_7^2\omega_4^2cs^2\omega_2^3\omega_3^3-2\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^3+6\omega_7^2\omega_4^2cs^2\omega_2^3\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_2^3\omega_3-21\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2+\omega_7\omega_4^3cs^2\omega_2^2\omega_3^3-2\omega_4^2cs^2\omega_2^3\omega_3^3-6\omega_7^2\omega_4^2cs^2\omega_2^3\omega_3^3-2\omega_7\omega_4\omega_2^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_2^2\omega_3^3v_3^2-2\omega_7\omega_4^2cs^2\omega_2^3\omega_3^2+4\omega_7^2\omega_4^2\omega_2^3\omega_3v_3^2+\omega_7^2\omega_4^3cs^2\omega_2^2\omega_3^2)\frac{v_1v_2}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}=(-2\omega_7^2\omega_4^3\omega_2^2cs^2\omega_3^3+3\omega_7^2\omega_4^3\omega_2\omega_3^2v_3^2+2\omega_7\omega_4^3\omega_2^3\omega_3^3v_3^2-10\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2-2\omega_7^2\omega_3^2cs^2\omega_3^3+3\omega_7^2\omega_4^3\omega_2^2\omega_3v_3^2+\omega_7^2\omega_4^3\omega_2^2cs^2\omega_3^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3v_3^2-\omega_4^3\omega_2^3\omega_3^3v_3^2+2\omega_7\omega_4^2\omega_2^3\omega_3^2v_3^2+\omega_7\omega_4^3\omega_2^3\omega_3^2v_3^2+2\omega_4^2\omega_2^3\omega_3^3v_3^2+8\omega_7^2\omega_4^2\omega_3^3\omega_3^3v_3^2-2\omega_7^2\omega_4^2\omega_2^2cs^2\omega_3^2+6\omega_7^2\omega_4\omega_2^3cs^2\omega_3^3-8\omega_7^2\omega_4^3\omega_2\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^2cs^2\omega_3^3+6\omega_7^2\omega_4^2\omega_2^2cs^2\omega_3^3-2\omega_4^2\omega_4\omega_2^3cs^2\omega_3^2+3\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2+3\omega_7^2\omega_4^3\omega_2^2v_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^2v_3^2-2\omega_7\omega_4\omega_2^3cs^2\omega_3^3-6\omega_7\omega_4^2\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_4^2\omega_2^3cs^2\omega_3-2\omega_7\omega_4^3\omega_2^3cs^2\omega_3^3+3\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_2^3\omega_3v_3^2-2\omega_7^2\omega_4^3\omega_2^3cs^2\omega_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2-2\omega_7^2\omega_4^2\omega_2cs^2\omega_3^3+4\omega_7^2\omega_4^2\omega_2^2\omega_3^3v_3^2+3\omega_7^2\omega_4^3\omega_3^3v_3^2+\omega_7\omega_4^3\omega_2^3cs^2\omega_3^2-\omega_7\omega_4^3\omega_2^2\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_2^2cs^2\omega_3^3+\omega_4^3\omega_2^3cs^2\omega_3^3+2\omega_7^2\omega_2^3\omega_3^3v_3^2+2\omega_7\omega_4^2\omega_2^2\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^3cs^2\omega_3^2-8\omega_7^2\omega_4^3\omega_2^2\omega_3^2v_3^2+\omega_7^2\omega_4^3\omega_2cs^2\omega_3^3-2\omega_4^2\omega_2^3cs^2\omega_3^3-7\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-6\omega_7^2\omega_4^2\omega_2^3cs^2\omega_3^3+6\omega_7^2\omega_4^3\omega_2^2cs^2\omega_3^3+\omega_7^2\omega_4^3\omega_2^2cs^2\omega_3+2\omega_7\omega_4\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_4\omega_2^2cs^2\omega_3^3-10\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2+6\omega_7^2\omega_4^2\omega_2^3cs^2\omega_3^2+4\omega_7^2\omega_4^2\omega_2^3\omega_3v_3^2)\frac{v_1v_2}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2\rho}=(3\omega_7^2\omega_4^3\omega_2\omega_3^2v_3^2+6\omega_7^2\omega_4^2\omega_2^3\omega_3^2cs^2-2\omega_7\omega_4^3\omega_2^3\omega_3^3cs^2+2\omega_7\omega_4^3\omega_2^3\omega_3^3v_3^2-10\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2-2\omega_7\omega_4^2\omega_2^3\omega_3^2cs^2+\omega_4^3\omega_2^3\omega_3^3cs^2+3\omega_7^2\omega_4^3\omega_2^2\omega_3v_3^2+\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3v_3^2-\omega_4^3\omega_2^3\omega_3^3v_3^2+2\omega_7^2\omega_4^2\omega_2^3\omega_3^2v_3^2-2\omega_7^2\omega_4^2\omega_2\omega_3^3cs^2+4\omega_7^2\omega_4^2\omega_2\omega_3^3v_3^2-\omega_7\omega_4^3\omega_2^2\omega_3^3v_3^2+2\omega_4^2\omega_2^3\omega_3^3v_3^2+8\omega_7^2\omega_4^2\omega_3^3\omega_3^3v_3^2-6\omega_7^2\omega_4^2\omega_2^3\omega_3^3cs^2-2\omega_4^2\omega_2^3\omega_3^3cs^2+\omega_7\omega_4^3\omega_2^3\omega_3^2cs^2-8\omega_7^2\omega_4^3\omega_2\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_2\omega_3^3cs^2-2\omega_7^2\omega_4\omega_2^2\omega_3^3cs^2+3\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2+7\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2-6\omega_7^2\omega_4^3\omega_2^3\omega_3^3v_3^2+6\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^2cs^2+3\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_4\omega_2^2\omega_3^3cs^2-2\omega_7^2\omega_4^3\omega_2^3\omega_3^3cs^2-8\omega_7^2\omega_4^3\omega_2^3\omega_3v_3^2+\omega_7\omega_4^3\omega_2^3\omega_3^2v_3^2+3\omega_7^2\omega_4^3\omega_3^3v_3^2-\omega_7\omega_4^3\omega_2^3\omega_3^2v_3^2-2\omega_7^2\omega_2^3\omega_3^3cs^2+2\omega_7^2\omega_2^3\omega_3^3v_3^2+2\omega_7\omega_4^2\omega_2^2\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_2^2\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_2^2\omega_3^3cs^2-2\omega_7\omega_4^2\omega_2^2\omega_3^3cs^2+6\omega_7^2\omega_4\omega_2^3\omega_3^3cs^2-7\omega_7^2\omega_4\omega_2^3\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_2^3\omega_3^3cs^2+10\omega_7^2\omega_4^2\omega_2^3\omega_3^3v_3^2-2\omega_7^2\omega_4^2\omega_2^3\omega_3cs^2+4\omega_7^2\omega_4^2\omega_2^3\omega_3v_3^2+6\omega_7^2\omega_4^2\omega_2^3\omega_3^3cs^2)\frac{v_1v_2}{\omega_7^2\omega_4^3\omega_2^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}$ **at** $\frac{\partial^4v_1}{\partial x_1\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}=(-56\omega^2cs^2-126\omega v_3^2+4\omega^3cs^2-96cs^2+84v_3^2-5\omega^3v_3^2+144\omega cs^2+52\omega^2v_3^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}=(-30\omega_7^2\omega_4^3\omega_3v_3^2-12\omega_7\omega_4^3\omega_3^3cs^2+40\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_4^2\omega_3^3v_3^2+12\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4^3\omega_3^3v_3^2-32\omega_7^2\omega_4^2\omega_3^3cs^2-12\omega_4^2\omega_3^3cs^2+6\omega_7^2\omega_4^3\omega_3cs^2+12\omega_7\omega_4^3\omega_3^2cs^2-60\omega_7^2\omega_4^2\omega_3^2v_3^2-12\omega_7\omega_4\omega_3^3v_3^2-12\omega_7^2\omega_3^3cs^2-12\omega_7\omega_4\omega_3^3cs^2+48\omega_7^2\omega_3^3v_3^2+12\omega_7\omega_4^3\omega_3^2v_3^2+48\omega_7^2\omega_4^2\omega_3^3cs^2+6\omega_4^3\omega_3^3cs^2+4\omega_7^2\omega_4^3\omega_3^3cs^2+36\omega_7\omega_4^2\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_3cs^2+48\omega_7^2\omega_4\omega_3^2v_3^2+24\omega_7^2\omega_4^2\omega_3v_3^2-24\omega_7^2\omega_4\omega_3^2cs^2+6\omega_4^3\omega_3^3v_3^2-5\omega_7^2\omega_4^3\omega_3^3v_3^2+36\omega_7\omega_4^2\omega_3^3cs^2-90\omega_7^2\omega_4\omega_3^3v_3^2-12\omega_7^2\omega_4^3\omega_3^2cs^2-24\omega_7\omega_4^2\omega_3^3v_3^2+24\omega_7^2\omega_4^3\omega_3^2v_3^2-24\omega_7\omega_4^2\omega_3^3cs^2+36\omega_7^2\omega_4\omega_3^3cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}=(36\omega_7^2\omega_4cs^2\omega_3^3-30\omega_7^2\omega_4^3\omega_3v_3^2+40\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_4^2\omega_3^3v_3^2+6\omega_7^2\omega_4^3cs^2\omega_3-24\omega_7^2\omega_4cs^2\omega_3^2+12\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4^3\omega_3^3v_3^2-60\omega_7^2\omega_4^2\omega_3^2v_3^2-12\omega_7\omega_4\omega_3^3v_3^2-12\omega_7^2\omega_4^3cs^2\omega_3^2+36\omega_7\omega_4^2cs^2\omega_3^3+48\omega_7^2\omega_3^3v_3^2+12\omega_7\omega_4^3\omega_3^2v_3^2+4\omega_7^2\omega_4^3cs^2\omega_3^3+6\omega_4^3cs^2\omega_3^3-24\omega_7\omega_4^2cs^2\omega_3^2+$

$36\omega_7\omega_4^2\omega_3^3v_3^2+48\omega_7^2\omega_4\omega_3^2v_3^2-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^3+24\omega_7^2\omega_4^2\omega_3v_3^2+6\omega_4^3\omega_3^3v_3^2-5\omega_7^2\omega_4^3\omega_3^3v_3^2-12\omega_7^2cs^2\omega_3^3+12\omega_7\omega_4^3cs^2\omega_3^2-12\omega_4^2cs^2\omega_3^3-32\omega_7^2\omega_4^2cs^2\omega_3^3-90\omega_7^2\omega_4\omega_3^3v_3^2-24\omega_7\omega_4^2\omega_3^2v_3^2-12\omega_7\omega_4^3cs^2\omega_3^3+48\omega_7^2\omega_4^2cs^2\omega_3^2+24\omega_7^2\omega_4^3\omega_3^2v_3^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}=(-30\omega_7^2\omega_4^3\omega_3v_3^2+16\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_7^2\omega_4^3cs^2\omega_3^2+12\omega_4^2\omega_3^3v_3^2+36\omega_7\omega_4^2cs^2\omega_3^3+12\omega_7^2\omega_4^3v_3^2+4\omega_7^2\omega_4^3cs^2\omega_3^3-24\omega_7\omega_4^2cs^2\omega_3^2+6\omega_4^3cs^2\omega_3^3+12\omega_7\omega_4^3\omega_3^3v_3^2-36\omega_7^2\omega_4^2\omega_3^2v_3^2+12\omega_7\omega_4\omega_3^3v_3^2+36\omega_7^2\omega_4cs^2\omega_3^3-24\omega_7^2\omega_4cs^2\omega_3^2-12\omega_7\omega_4^3\omega_3^2v_3^2+6\omega_7^2\omega_4^3cs^2\omega_3-12\omega_4^2cs^2\omega_3^3+12\omega_7\omega_4^3cs^2\omega_3^2-36\omega_7\omega_4^2\omega_3^3v_3^2-32\omega_7^2\omega_4^2cs^2\omega_3^3+24\omega_7^2\omega_4^2\omega_3v_3^2-6\omega_4^3\omega_3^3v_3^2-12\omega_7\omega_4^3cs^2\omega_3^3-5\omega_7^2\omega_4^3\omega_3^3v_3^2+48\omega_7^2\omega_4^2cs^2\omega_3^2-6\omega_7^2\omega_4\omega_3^3v_3^2-12\omega_7\omega_4cs^2\omega_3^3-12\omega_7^2\omega_4^2cs^2\omega_3+24\omega_7\omega_4^2\omega_3^2v_3^2+24\omega_7^2\omega_4^3\omega_3^2v_3^2-12\omega_7^2cs^2\omega_3^3)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_1}=(-32\omega_7^2\omega_4^2\omega_3^3cs^2-12\omega_4^2\omega_3^3cs^2-30\omega_7^2\omega_4^3\omega_3v_3^2+6\omega_7^2\omega_4^3\omega_3cs^2+16\omega_7^2\omega_4^2\omega_3^3v_3^2+12\omega_4^2\omega_3^3v_3^2+12\omega_7^2\omega_4^3v_3^2+12\omega_7\omega_4^3\omega_3^3v_3^2-12\omega_7\omega_4^3\omega_3^3cs^2-12\omega_7\omega_4\omega_3^3cs^2-36\omega_7^2\omega_4^2\omega_3^3v_3^2+12\omega_7\omega_4\omega_3^3v_3^2+48\omega_7^2\omega_4^2\omega_3^3cs^2+12\omega_7\omega_4^3\omega_3^3cs^2-12\omega_7\omega_4^3\omega_3^3v_3^2-12\omega_7^2\omega_3^3cs^2-36\omega_7\omega_4^2\omega_3^3v_3^2-24\omega_7^2\omega_4\omega_3^3cs^2+36\omega_7^2\omega_4^2\omega_3^3cs^2+24\omega_7^2\omega_4^2\omega_3v_3^2+6\omega_4^3\omega_3^3cs^2+4\omega_7^2\omega_4^3\omega_3^3cs^2-6\omega_4^3\omega_3^3v_3^2-5\omega_7^2\omega_4^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_3cs^2-6\omega_7^2\omega_4\omega_3^3v_3^2-24\omega_7\omega_4^2\omega_3^3cs^2+36\omega_7\omega_4^2\omega_3^3cs^2+24\omega_7\omega_4^2\omega_3^2v_3^2+24\omega_7^2\omega_4^3\omega_3^2v_3^2-12\omega_7^2\omega_4^3\omega_3^2cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}$ **at** $\frac{\partial^4v_2}{\partial x_1\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}=(-56\omega^2cs^2-126\omega v_3^2+4\omega^3cs^2-96cs^2+84v_3^2-5\omega^3v_3^2+144\omega cs^2+52\omega^2v_3^2)\frac{v_1\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}=(-90\omega_7^2\omega_4\omega_3^2v_3^2-24\omega_7\omega_4^2\omega_3^2v_3^2-12\omega_7^2\omega_4^3\omega_3^2cs^2+12\omega_7^2\omega_4^3v_3^2-24\omega_7\omega_4^2\omega_3^2cs^2+24\omega_7^2\omega_4^3\omega_3^2v_3^2+36\omega_7^2\omega_4\omega_3^2cs^2+36\omega_7\omega_4^2\omega_3^2v_3^2+6\omega_4^3\omega_3^2cs^2+4\omega_7^2\omega_4^3\omega_3^2cs^2-12\omega_7^2\omega_4^2\omega_2cs^2+48\omega_7^2\omega_4\omega_3^2v_3^2+24\omega_7^2\omega_4^2\omega_2v_3^2-24\omega_7^2\omega_4\omega_3^2cs^2+36\omega_7\omega_4^2\omega_3^2cs^2+6\omega_4^3\omega_3^2v_3^2-5\omega_7^2\omega_4^3\omega_3^2v_3^2-60\omega_7^2\omega_4^2\omega_3^2v_3^2+12\omega_7\omega_4^3\omega_3^2cs^2-12\omega_7\omega_4\omega_3^3v_3^2-12\omega_7^2\omega_3^2cs^2-12\omega_7\omega_4\omega_3^3cs^2+48\omega_7^2\omega_3^3v_3^2+48\omega_7^2\omega_4^2\omega_3^2cs^2+12\omega_7\omega_4^3\omega_3^2v_3^2-30\omega_7^2\omega_4^3\omega_2v_3^2+40\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_4^2\omega_3^3v_3^2-12\omega_7\omega_4^3\omega_3^2cs^2-32\omega_7^2\omega_4^2\omega_3^3cs^2-12\omega_4^2\omega_3^2cs^2-12\omega_7\omega_4^3\omega_3^2v_3^2+6\omega_7^2\omega_4^3\omega_2cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}=(48\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^3-90\omega_7^2\omega_4\omega_3^2v_3^2-24\omega_7\omega_4^2\omega_2^2v_3^2-32\omega_7^2\omega_4^2cs^2\omega_3^2+12\omega_7\omega_4^3cs^2\omega_2^2-12\omega_4^2cs^2\omega_3^2+12\omega_7^2\omega_4^3v_3^2+24\omega_7^2\omega_4^3\omega_2^2v_3^2+36\omega_7\omega_4^2\omega_3^2v_3^2+48\omega_7^2\omega_4\omega_2^2v_3^2-12\omega_7^2\omega_3^2cs^2\omega_2^2-24\omega_7^2\omega_4\omega_2^2v_3^2+6\omega_4^3\omega_2^2v_3^2-5\omega_7^2\omega_4^3\omega_2^2v_3^2-12\omega_7^2\omega_4^2cs^2\omega_2-12\omega_7\omega_4cs^2\omega_2^3-60\omega_7^2\omega_4^2\omega_2^2v_3^2-12\omega_7\omega_4\omega_2^3v_3^2+6\omega_4^3cs^2\omega_2^3-24\omega_7\omega_4^2cs^2\omega_2^2+4\omega_7^2\omega_4^3cs^2\omega_2^3+48\omega_7^2\omega_2^3v_3^2+12\omega_7\omega_4^3\omega_2^2v_3^2+36\omega_7\omega_4^2cs^2\omega_2^3-12\omega_7^2\omega_4^3cs^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2-24\omega_7^2\omega_4cs^2\omega_2^2-30\omega_7^2\omega_4^3\omega_2v_3^2+40\omega_7^2\omega_4^2\omega_2^3v_3^2-12\omega_4^2\omega_2^3v_3^2+36\omega_7^2\omega_4cs^2\omega_2^3-12\omega_7\omega_4^3\omega_2^3v_3^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}=(-6\omega_7^2\omega_4\omega_2^3v_3^2+24\omega_7\omega_4^2\omega_2^2v_3^2-12\omega_7\omega_4^3\omega_2^3cs^2+12\omega_7^2\omega_4^3v_3^2-32\omega_7^2\omega_4^2\omega_2^3cs^2+24\omega_7^2\omega_4^3\omega_2^2v_3^2-12\omega_4^2\omega_2^3cs^2+6\omega_7^2\omega_4^3\omega_2cs^2+12\omega_7\omega_4^3\omega_2^2cs^2-36\omega_7\omega_4^2\omega_2^3v_3^2-12\omega_7^2\omega_2^3cs^2-12\omega_7\omega_4\omega_2^3cs^2+24\omega_7^2\omega_4^2\omega_2v_3^2-6\omega_4^3\omega_2^3v_3^2-5\omega_7^2\omega_4^3\omega_2^3v_3^2+48\omega_7^2\omega_4^2\omega_2^2cs^2+6\omega_4^3\omega_2^3cs^2+4\omega_7^2\omega_4^3\omega_2^2cs^2-36\omega_7^2\omega_4^2\omega_2^2v_3^2-12\omega_7^2\omega_4^2\omega_2cs^2+12\omega_7\omega_4\omega_2^3v_3^2-24\omega_7^2\omega_4\omega_2^2cs^2-12\omega_7^2\omega_4^3\omega_2^2v_3^2+36\omega_7^2\omega_4^2\omega_2^3cs^2-30\omega_7^2\omega_4^3\omega_2v_3^2+16\omega_7^2\omega_4^2\omega_2^2v_3^2-12\omega_7^2\omega_4^3\omega_2^2cs^2+12\omega_4^2\omega_2^3v_3^2-24\omega_7^2\omega_4^2\omega_2^2cs^2+12\omega_7\omega_4^3\omega_2^3v_3^2+36\omega_7^2\omega_4\omega_2^3cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_2}=(-6\omega_7^2\omega_4\omega_2^3v_3^2-24\omega_7\omega_4^2\omega_2^2cs^2+36\omega_7^2\omega_4\omega_2^3cs^2+24\omega_7\omega_4^2\omega_2^2v_3^2+12\omega_7^2\omega_4^3v_3^2+24\omega_7^2\omega_4^3\omega_2^2v_3^2-12\omega_7^2\omega_4^3\omega_2^2cs^2-36\omega_7\omega_4^2\omega_2^3v_3^2-24\omega_7^2\omega_4\omega_2^2cs^2+36\omega_7^2\omega_4^2\omega_2^3cs^2+6\omega_4^3\omega_2^3cs^2+4\omega_7^2\omega_4^3\omega_2^3cs^2-6\omega_4^3\omega_2^3v_3^2-5\omega_7^2\omega_4^3\omega_2^3v_3^2-12\omega_7\omega_4^3\omega_2^2cs^2-30\omega_7^2\omega_4^3\omega_2v_3^2-32\omega_7^2\omega_4^2\omega_2^3cs^2-12\omega_4^2\omega_2^3cs^2+16\omega_7^2\omega_4^2\omega_2^2v_3^2+12\omega_4^2\omega_2^3v_3^2+6\omega_7^2\omega_4^3\omega_2cs^2+12\omega_7\omega_4^3\omega_2^3v_3^2-12\omega_7\omega_4^3\omega_2^3cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^4v_3}{\partial x_1\partial x_2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}=(132-198\omega-5\omega^3+76\omega^2)\frac{v_1v_2\rho v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}=(18\omega_4\omega_2^3\omega_3^2+24\omega_4^2\omega_2^2\omega_3^3-30\omega_4^3\omega_2^3\omega_3+12\omega_2^3\omega_3^3-42\omega_4^2\omega_2^2\omega_3^2-36\omega_4\omega_2^3\omega_3^3-5\omega_4^3\omega_2^3\omega_3^3+18\omega_4^3\omega_2^2\omega_3+6\omega_4^2\omega_2\omega_3^3+12\omega_4^3\omega_2^3+18\omega_4\omega_2^2\omega_3^3+24\omega_4^3\omega_2^3\omega_3^2+12\omega_4^3\omega_3^3+12\omega_4^2\omega_2^2\omega_3^2+6\omega_4^2\omega_2^3\omega_3-30\omega_4^2\omega_2^2\omega_3^3+18\omega_4^3\omega_2\omega_3^2-30\omega_4^2\omega_2^3\omega_3^2+28\omega_4^2\omega_2^3\omega_3^3-30\omega_4^3\omega_2\omega_3^3)\frac{v_1v_2\rho v_3}{6\omega_4^3\omega_2^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}=C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}=C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}=C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_y\mathrm{D}_z^2v_3}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}$ **at** $\frac{\partial^4\rho}{\partial x_2^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}=(-3\omega^3v_2^2v_3^2-24\omega cs^4+\omega^3cs^2v_3^2+36\omega cs^2v_3^2+56v_2^2v_3^2-24cs^2v_3^2-14\omega^2cs^2v_2^2-84\omega v_2^2v_3^2-24cs^2v_2^2-\omega^3cs^4-14\omega^2cs^2v_3^2+$

$36\omega cs^2v_2^2+34\omega^2v_2^2v_3^2+16cs^4+10\omega^2cs^4+\omega^3cs^2v_2^2)\frac{1}{4\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}=(-2\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2cs^2+10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-38\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3v_3^2-8\omega_7^2\omega_4\omega_6^2\omega_3^2v_3^2cs^2+20\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^2v_3^2-2\omega_7^2\omega_4^3\omega_6\omega_3^2cs^4+12\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2cs^2+2\omega_7^2\omega_4^2\omega_6\omega_3^3v_3^2cs^2-4\omega_7\omega_4v_2^2\omega_6^2\omega_3^3cs^2+10\omega_7^2\omega_4^3\omega_6^2\omega_3v_3^2cs^2-2\omega_7^2\omega_4^2\omega_6\omega_3^3cs^4-4\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3cs^2+20\omega_7^2\omega_4^3v_2^2\omega_6^2v_3^2+10\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2v_3^2-4\omega_7^2\omega_4^3\omega_6^2v_3^2cs^2+10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2-4\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2+12\omega_7^2\omega_4^2\omega_6^2\omega_3^2v_3^2cs^2+\omega_7\omega_4^3\omega_6^2\omega_3^3cs^2+4\omega_7^2\omega_4^2\omega_6^2\omega_3^3cs^2+\omega_7\omega_4^3\omega_6^2\omega_3^3cs^2-36\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2-8\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2+4\omega_7\omega_4^2\omega_6^2\omega_3cs^4-38\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3v_3^2+\omega_7^2\omega_4^3\omega_6^2\omega_3^3v_3^2cs^2-4\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2+\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^3cs^2+20\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_4^2v_2^2\omega_6^2\omega_3^3cs^4-4\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2-2\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^2cs^2+2\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^2v_3^2+4\omega_7\omega_4^2\omega_6^2\omega_3^3cs^4-4\omega_7^2\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2-\omega_7^2\omega_4^3\omega_6^2\omega_3^3cs^4-2\omega_7\omega_4^3\omega_6^2\omega_3^3v_3^2cs^2-4\omega_7^2\omega_4^3v_2^2\omega_3^3v_3^2+\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2+20\omega_7^2v_2^2\omega_6^2\omega_3^3v_3^2+2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2+2\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^3v_3^2+2\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^2cs^2-4\omega_7^2\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2+4\omega_7^2\omega_4\omega_6^2\omega_3^3v_3^2cs^2-4\omega_7^2v_2^2\omega_6^2\omega_3^3cs^2-12\omega_7^2\omega_4^2\omega_6^2\omega_3^3cs^4+2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2+\omega_7\omega_4^3\omega_6^2\omega_3^3cs^4-4\omega_7^2\omega_4^3\omega_6\omega_3v_3^2cs^2-3\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-3\omega_7^2\omega_4^3\omega_6\omega_3^3v_3^2cs^2+2\omega_7^2\omega_4^3v_2^2\omega_3^3v_3^2-4\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2-4\omega_7^2\omega_4^3v_2^2\omega_6\omega_3v_3^2+20\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3v_3^2-3\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_6^2\omega_3^3cs^4+4\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^2cs^2+4\omega_7^2\omega_4^3\omega_6^2\omega_3^3cs^4+20\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2+4\omega_7^2\omega_4^2\omega_6^2\omega_3^3cs^4-2\omega_7\omega_4^3\omega_6^2\omega_3^3cs^4-8\omega_7^2\omega_4^3\omega_6^2\omega_3^2v_3^2cs^2-8\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3cs^2-3\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2-4\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^2v_3^2+2\omega_7^2\omega_4^3\omega_3^3v_3^2cs^2-4\omega_7^2\omega_4^2\omega_6^2\omega_3v_3^2cs^2)\frac{1}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}=(10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2+\omega_7^2\omega_4^3cs^4\omega_6\omega_3^3-38\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3v_3^2-3\omega_7^2\omega_4^3cs^2\omega_6\omega_3^3v_3^2+20\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^2v_3^2-2\omega_7^2\omega_4cs^4\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2+10\omega_7\omega_4^2cs^2v_2^2\omega_6^2\omega_3^3-4\omega_7\omega_4cs^2v_2^2\omega_6^2\omega_3^2+4\omega_7^2\omega_4cs^2\omega_6^2\omega_3^3v_3^2+20\omega_7^2\omega_4^2v_2^2\omega_6^2v_3^2+10\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2v_3^2-8\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3-4\omega_7^2\omega_4^3cs^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^4\omega_6\omega_3^2+4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2-4\omega_7\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2-4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2-36\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4^2cs^4\omega_6\omega_3^2+10\omega_7^2\omega_4cs^2v_2^2\omega_6^2\omega_3^3+12\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+\omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^3-38\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2+12\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2+10\omega_7^2\omega_4^3cs^2\omega_6\omega_3^2v_3^2+20\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^2v_2^2\omega_6\omega_3^2-4\omega_7^2\omega_4cs^2v_2^2\omega_6^2\omega_3^2-2\omega_7^2\omega_4^2cs^4\omega_6\omega_3^3-4\omega_7^2v_2^2\omega_6^2\omega_3^3v_3^2+2\omega_7^2\omega_4^3cs^2\omega_3^3v_3^2-3\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^3v_3^2-2\omega_7\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2-8\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3^2+2\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2-8\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+4\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3+20\omega_7^2v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^3cs^2\omega_6^2v_3^2-12\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2+2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^3v_3^2-4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3v_3^2+\omega_7^2\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+\omega_7\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2+2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3-4\omega_7^2\omega_4^3cs^2\omega_6\omega_3v_3^2-2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^2v_2^2\omega_6\omega_3^2-3\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-3\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3+20\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3v_3^2-3\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2+2\omega_7^2\omega_4^2cs^2\omega_6\omega_3^3v_3^2+20\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2-\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3+2\omega_7\omega_4^3cs^2v_2^2\omega_6^2\omega_3^3+4\omega_7^2\omega_4^2cs^2v_2^2\omega_6^2\omega_3cs^2-4\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2+2\omega_7^2\omega_4^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2cs^2+\omega_7^2\omega_4^3\omega_6^2\omega_3^3v_3^2cs^2-\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2-\omega_7^2\omega_4^3\omega_6^2\omega_3^3v_3^2cs^2)\frac{1}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}=(-10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-14\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3v_3^2-4\omega_7^2\omega_4^3cs^2\omega_6^2v_3^2+8\omega_7^2\omega_4^2v_2^2cs^2\omega_6^2\omega_3^2+12\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^2v_3^2+4\omega_7\omega_4^2cs^4\omega_6^2\omega_3^2+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^3+10\omega_7^2\omega_4v_2^2cs^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2-\omega_7^2\omega_4^3v_2^2cs^2\omega_6\omega_3^3-8\omega_7^2\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3-2\omega_7\omega_4^2cs^4\omega_6^2\omega_3^3-2\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3+4\omega_7^2\omega_4^3v_2^2\omega_6^2v_3^2-10\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2v_3^2-4\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3+2\omega_7^2\omega_4^3v_2^2cs^2\omega_6\omega_3^3+4\omega_7\omega_4v_2^2\omega_6^2\omega_3^3v_3^2-3\omega_7^2\omega_4^3cs^2\omega_6\omega_3^2v_3^2-12\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3^2-28\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2-4\omega_7^2\omega_4v_2^2cs^2\omega_6^2\omega_3^3+10\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3v_3^2+10\omega_7\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3+2\omega_7\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4^2cs^4\omega_6^2\omega_3+\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3+4\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^3-14\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3v_3^2+4\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2-2\omega_7\omega_4^3cs^4\omega_6^2\omega_3^3+14\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7\omega_4^2v_2^2cs^2\omega_6^2\omega_3^3+10\omega_7^2\omega_4^3cs^2\omega_6\omega_3^2v_3^2+4\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2+3\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^3v_3^2-4\omega_7\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2+8\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+\omega_7^2\omega_4^3cs^4\omega_6\omega_3^3-\omega_7\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2-3\omega_7\omega_4^3v_2^2cs^2\omega_6^2\omega_3^3-4\omega_7^2\omega_4^2cs^2\omega_6\omega_3v_3^2-8\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4cs^4\omega_6^2\omega_3^3+\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3cs^4\omega_6^2\omega_3^2-2\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2-4\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2v_3^2-2\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2cs^2\omega_6\omega_3^3v_3^2-8\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4\omega_6^2\omega_3^3cs^4+2\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^3v_3^2+4\omega_7^2\omega_4^2cs^2\omega_6^2\omega_3^2v_3^2+\omega_7^2\omega_4^3cs^2\omega_6^2\omega_3^3v_3^2+\omega_7^2\omega_4^3v_2^2cs^2\omega_6^2\omega_3^3)\frac{1}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_z^2\rho}=(-4\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^2cs^2-2\omega_7^2\omega_4^2\omega_6\omega_3^3cs^4-10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-14\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3v_3^2+10\omega_7^2\omega_4^3\omega_6^2\omega_3v_3^2cs^2+10\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^2cs^2-4\omega_7^2\omega_4^3\omega_6^2\omega_3^2v_3^2cs^2+12\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4\omega_6^2\omega_3^2cs^4+8\omega_7^2\omega_4^2\omega_6^2\omega_3^2v_3^2cs^2-\omega_7\omega_4^3\omega_6^2\omega_3^2v_3^2cs^2-2\omega_7^2\omega_4^3\omega_6^2\omega_3cs^4+2\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2cs^2+4\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^2v_3^2-10\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^2v_3^2+8\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2cs^2+4\omega_7\omega_4v_2^2\omega_6^2\omega_3^3v_3^2-2\omega_7^2\omega_4^3\omega_6\omega_3^2cs^4-4\omega_7\omega_4v_2^2\omega_6^2\omega_3^3cs^2-28\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2+2\omega_7^2\omega_4^2\omega_6\omega_3^3v_3^2cs^2+10\omega_7^2\omega_4^3\omega_6\omega_3^2v_3^2cs^2-2\omega_7^2\omega_4\omega_6^2\omega_3^3cs^4-14\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^2cs^2+4\omega_7\omega_4^2v_2^2\omega_6^2\omega_3^2v_3^2+4\omega_7^2\omega_4^2\omega_6\omega_3^3cs^4+10\omega_7^2\omega_4v_2^2\omega_6^2\omega_3^3cs^2-4\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2+14\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^3\omega_3^3v_3^2cs^2-8\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3^3cs^2+\omega_7^2\omega_4^3\omega_6\omega_3^3cs^4+4\omega_4^2v_2\omega_6^2\omega_3^3v_3^2+4\omega_7^2\omega_4^2\omega_6^2\omega_3cs^4+3\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^3v_3^2-4\omega_7\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2+\omega_7^2\omega_4^3\omega_6^2\omega_3^3v_3^2cs^2-\omega_7^2\omega_4^3v_2^2\omega_6\omega_3^3cs^2-2\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2\omega_6\omega_3^2v_3^2cs^2+2\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2+4\omega_7^2\omega_4^3v_2^2\omega_3^3v_3^2+\omega_7\omega_4^3\omega_6^2\omega_3^3cs^4-12\omega_7^2\omega_4^2\omega_6^2\omega_3^3cs^4-4\omega_7^2v_2^2\omega_6^2\omega_3^3cs^2+4\omega_7^2v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^3\omega_6\omega_3v_3^2cs^2-\omega_7^2\omega_4^3\omega_6^2\omega_3^3cs^4+4\omega_7\omega_4^2\omega_6^2\omega_3^3cs^4+2\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^3cs^2-2\omega_7^2\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2-2\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^3v_3^2+2\omega_7\omega_4^3\omega_6^2\omega_3^2v_3^2cs^2+\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2-2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2+2\omega_4^3v_2^2\omega_6^2\omega_3^3cs^2-3\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2+2\omega_7\omega_4^2\omega_6^2\omega_3^3v_3^2cs^2-2\omega_7\omega_4^3\omega_6^2\omega_3^3cs^4-2\omega_7^2\omega_4^3v_2^2\omega_3^3v_3^2-8\omega_7^2\omega_4^3\omega_6^2\omega_3^2v_3^2cs^2+4\omega_7^2\omega_4^2\omega_6^2\omega_3^3cs^4+4\omega_7^2\omega_4^3v_2^2\omega_6\omega_3\omega_3^2v_3^2+2\omega_7^2\omega_4^3\omega_3^3v_3^2cs^2-3\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2cs^2-2\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^2v_3^2+12\omega_7^2\omega_4^2v_2^2\omega_6^2\omega_3v_3^2+3\omega_7\omega_4^3v_2^2\omega_6^2\omega_3^3v_3^2-4\omega_7^2\omega_4^2\omega_6^2\omega_3v_3^2cs^2-3\omega_7^2\omega_4^3\omega_6\omega_3^3v_3^2cs^2+14\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3^2v_3^2-2\omega_7^2\omega_4^3v_2^2\omega_6^2\omega_3cs^2+4\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^2v_3^2+4\omega_7^2\omega_4^3\omega_6^2\omega_3^2cs^4-4\omega_7^2\omega_4^2v_2^2\omega_6\omega_3^2cs^2-2\omega_7\omega_4^2\omega_6^2\omega_3^3cs^4)\frac{1}{4\omega_7^2\omega_4^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}$ **at** $\frac{\partial^4v_2}{\partial x_2^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}=(-26\omega^2cs^2-126\omega v_3^2+\omega^3cs^2-48cs^2+84v_3^2-4\omega^3v_3^2+72\omega cs^2+50\omega^2v_3^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}=(-30\omega_7^2\omega_4^3\omega_3v_3^2-6\omega_7\omega_4^3\omega_3^3cs^2+34\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_4^2\omega_3^3v_3^2+12\omega_7^2\omega_4^3v_3^2-6\omega_7\omega_4^3\omega_3^3v_3^2-14\omega_7^2\omega_4^2\omega_3^3cs^2-12\omega_4^2\omega_3^3cs^2+6\omega_7^2\omega_4^3\omega_3cs^2-48\omega_7^2\omega_4^2\omega_3^2v_3^2-12\omega_7\omega_4\omega_3^3v_3^2-12\omega_7^2\omega_3^3cs^2-12\omega_7\omega_4\omega_3^3cs^2+48\omega_7^2\omega_3^2v_3^2+12\omega_7^2\omega_4^2\omega_3^2cs^2+6\omega_4^3\omega_3^3cs^2+\omega_7^2\omega_4^3\omega_3^3cs^2+24\omega_7\omega_4^2\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_3cs^2+$

$24\omega_7^2\omega_4\omega_3^2v_3^2+24\omega_7^2\omega_4^2\omega_3v_3^2+6\omega_4^3\omega_3^3v_3^2-4\omega_7^2\omega_4^3\omega_3^3v_3^2+24\omega_7\omega_4^2\omega_3^3cs^2-78\omega_7^2\omega_4\omega_3^3v_3^2-6\omega_7^2\omega_4^3\omega_3^2cs^2+22\omega_7^2\omega_4^3\omega_3^2v_3^2+24\omega_7^2\omega_4\omega_3^3cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}=(24\omega_7^2\omega_4cs^2\omega_3^3-30\omega_7^2\omega_4^3\omega_3v_3^2+34\omega_7^2\omega_4^2\omega_3^3v_3^2-12\omega_4^2\omega_3^3v_3^2+6\omega_7^2\omega_4^3cs^2\omega_3+12\omega_7^2\omega_4^3v_3^2-6\omega_7\omega_4^3\omega_3^3v_3^2-48\omega_7^2\omega_4^2\omega_3^2v_3^2-12\omega_7\omega_4\omega_3^3v_3^2-6\omega_7^2\omega_4^3cs^2\omega_3^2+24\omega_7\omega_4^2cs^2\omega_3^3+48\omega_7^2\omega_4^3v_3^2+\omega_7^2\omega_4^3cs^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+24\omega_7\omega_4^2\omega_3^3v_3^2+24\omega_7^2\omega_4\omega_3^2v_3^2-12\omega_7^2\omega_4^2cs^2\omega_3-12\omega_7\omega_4cs^2\omega_3^3+24\omega_7^2\omega_4^2\omega_3v_3^2+6\omega_4^3\omega_3^3v_3^2-4\omega_7^2\omega_4^3\omega_3^3v_3^2-12\omega_7^2cs^2\omega_3^3-12\omega_4^2cs^2\omega_3^3-14\omega_7^2\omega_4^2cs^2\omega_3^3-78\omega_7^2\omega_4\omega_3^3v_3^2-6\omega_7\omega_4^3cs^2\omega_3^3+12\omega_7^2\omega_4^2cs^2\omega_3^2+22\omega_7^2\omega_4^3\omega_3^2v_3^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}=(-30\omega_7^2\omega_4^3\omega_3v_3^2+22\omega_7^2\omega_4^2\omega_3^3v_3^2-6\omega_7^2\omega_4^3cs^2\omega_3^2+12\omega_4^2\omega_3^3v_3^2+24\omega_7\omega_4^2cs^2\omega_3^3+12\omega_7^2\omega_4^3v_3^2+\omega_7^2\omega_4^3cs^2\omega_3^3+6\omega_4^3cs^2\omega_3^3+6\omega_7\omega_4^3\omega_3^3v_3^2-48\omega_7^2\omega_4^2\omega_3^2v_3^2+12\omega_7\omega_4\omega_3^3v_3^2+24\omega_7^2\omega_4cs^2\omega_3^3+6\omega_7^2\omega_4^3cs^2\omega_3-12\omega_4^2cs^2\omega_3^3-24\omega_7\omega_4^2\omega_3^3v_3^2-14\omega_7^2\omega_4^2cs^2\omega_3^3+24\omega_7^2\omega_4\omega_3^2v_3^2+24\omega_7^2\omega_4^2\omega_3v_3^2-6\omega_4^3\omega_3^3v_3^2-6\omega_7\omega_4^3cs^2\omega_3^3-4\omega_7^2\omega_4^3\omega_3^3v_3^2+12\omega_7^2\omega_4^2cs^2\omega_3^2-18\omega_7^2\omega_4\omega_3^3v_3^2-12\omega_7\omega_4cs^2\omega_3^3-12\omega_7^2\omega_4^2cs^2\omega_3+22\omega_7^2\omega_4^3\omega_3^2v_3^2-12\omega_7^2cs^2\omega_3^3)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_2}=(-14\omega_7^2\omega_4^2\omega_3^3cs^2-12\omega_4^2\omega_3^3cs^2-30\omega_7^2\omega_4^3\omega_3v_3^2+6\omega_7^2\omega_4^3\omega_3cs^2+22\omega_7^2\omega_4^2\omega_3^3v_3^2+12\omega_4^2\omega_3^3v_3^2+12\omega_7^2\omega_4^3v_3^2+6\omega_7\omega_4^3\omega_3^3v_3^2-6\omega_7\omega_4^3\omega_3^3cs^2-12\omega_7\omega_4\omega_3^3cs^2-48\omega_7^2\omega_4^2\omega_3^2v_3^2+12\omega_7\omega_4\omega_3^3v_3^2+12\omega_7^2\omega_4^2\omega_3^2cs^2-12\omega_7^2\omega_3^3cs^2-24\omega_7\omega_4^2\omega_3^3v_3^2+24\omega_7\omega_4^2\omega_3^3cs^2+24\omega_7^2\omega_4\omega_3^2v_3^2+24\omega_7^2\omega_4^2\omega_3v_3^2+6\omega_4^3\omega_3^3cs^2+\omega_7^2\omega_4^3\omega_3^3cs^2-6\omega_4^3\omega_3^3v_3^2-4\omega_7^2\omega_4^3\omega_3^3v_3^2-12\omega_7^2\omega_4^2\omega_3cs^2-18\omega_7^2\omega_4\omega_3^3v_3^2+24\omega_7^2\omega_4\omega_3^3cs^2+22\omega_7^2\omega_4^3\omega_3^2v_3^2-6\omega_7^2\omega_4^3\omega_3^2cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}$ **at** $\frac{\partial^4v_3}{\partial x_2^2\partial x_3^2}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}=(-26\omega^2cs^2+50\omega^2v_2^2-4\omega^3v_2^2+\omega^3cs^2-48cs^2+84v_2^2+72\omega cs^2-126\omega v_2^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}=(-14\omega_4^3\omega_6^2\omega_3^2cs^2-12\omega_4^3v_2^2\omega_3^2-4\omega_4^3v_2^2\omega_6^2\omega_3^3-12\omega_4^3\omega_6\omega_3cs^2+6\omega_4^3v_2^2\omega_3^3+24\omega_4^2v_2^2\omega_6^2\omega_3+34\omega_4^3v_2^2\omega_6^2\omega_3^2-6\omega_4^2\omega_6^2\omega_3^3cs^2-78\omega_4^3v_2^2\omega_6^2\omega_3+\omega_4^3\omega_6^2\omega_3^3cs^2+48\omega_4^3v_2^2\omega_6^2-48\omega_4^2v_2^2\omega_6^2\omega_3^2+12\omega_4^2\omega_6^2\omega_3^2cs^2-12\omega_4^3\omega_6^2cs^2+22\omega_4^2v_2^2\omega_6^2\omega_3^3+6\omega_4^3\omega_3^3cs^2+12v_2^2\omega_6^2\omega_3^3-6\omega_4^3\omega_6\omega_3^3cs^2+6\omega_4\omega_6^2\omega_3^3cs^2-12\omega_4^3v_2^2\omega_6\omega_3+24\omega_4^3\omega_6\omega_3^2cs^2+24\omega_4v_2^2\omega_6^2\omega_3^2+24\omega_4^3v_2^2\omega_6\omega_3^2-12\omega_4^3\omega_3^2cs^2-30\omega_4v_2^2\omega_6^2\omega_3^3+24\omega_4^3\omega_6^2\omega_3cs^2-6\omega_4^3v_2^2\omega_6\omega_3^3-12\omega_4\omega_6^2\omega_3^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}=(-12\omega_4^3cs^2\omega_6^2-12\omega_4^3v_2^2\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3-4\omega_4^3v_2^2\omega_6^2\omega_3^3+6\omega_4^3v_2^2\omega_3^3+24\omega_4^2v_2^2\omega_6^2\omega_3+34\omega_4^3v_2^2\omega_6^2\omega_3^2-78\omega_4^3v_2^2\omega_6^2\omega_3-6\omega_4^3cs^2\omega_6\omega_3^3+6\omega_4cs^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_3^2+48\omega_4^3v_2^2\omega_6^2-48\omega_4^2v_2^2\omega_6^2\omega_3^2+24\omega_4^3cs^2\omega_6\omega_3^2+22\omega_4^2v_2^2\omega_6^2\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^3+6\omega_4^3cs^2\omega_3^3-14\omega_4^3cs^2\omega_6^2\omega_3^2+12v_2^2\omega_6^2\omega_3^3+\omega_4^3cs^2\omega_6^2\omega_3^3-12\omega_4^3v_2^2\omega_6\omega_3+24\omega_4v_2^2\omega_6^2\omega_3^2-6\omega_4^2cs^2\omega_6^2\omega_3^3+24\omega_4^3v_2^2\omega_6\omega_3^2+12\omega_4^2cs^2\omega_6^2\omega_3^2-30\omega_4v_2^2\omega_6^2\omega_3^3-6\omega_4^3v_2^2\omega_6\omega_3^3+24\omega_4^3cs^2\omega_6^2\omega_3)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}=(12\omega_4^3v_2^2\omega_3^2-14\omega_4^3cs^2\omega_6^2\omega_3^2-4\omega_4^3v_2^2\omega_6^2\omega_3^3-12\omega_4^3cs^2\omega_3^2-6\omega_4^3v_2^2\omega_3^3+24\omega_4^2v_2^2\omega_6^2\omega_3+6\omega_4^3cs^2\omega_3^3+22\omega_4^3v_2^2\omega_6^2\omega_3^2+\omega_4^3cs^2\omega_6^2\omega_3^3-18\omega_4^3v_2^2\omega_6^2\omega_3-12\omega_4^3cs^2\omega_6^2-6\omega_4^2cs^2\omega_6^2\omega_3^3-48\omega_4^2v_2^2\omega_6^2\omega_3^2+24\omega_4^3cs^2\omega_6^2\omega_3+22\omega_4^2v_2^2\omega_6^2\omega_3^3+12\omega_4^2cs^2\omega_6^2\omega_3^2-12\omega_4^3cs^2\omega_6\omega_3+12v_2^2\omega_6^2\omega_3^3+12\omega_4^3v_2^2\omega_6\omega_3+24\omega_4v_2^2\omega_6^2\omega_3^2+6\omega_4cs^2\omega_6^2\omega_3^3-24\omega_4^3v_2^2\omega_6\omega_3^2-6\omega_4^3cs^2\omega_6\omega_3^3-12\omega_4cs^2\omega_6^2\omega_3^2-30\omega_4v_2^2\omega_6^2\omega_3^3+24\omega_4^3cs^2\omega_6\omega_3^2+6\omega_4^3v_2^2\omega_6\omega_3^3)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y^2\mathrm{D}_z^2v_3}=(-12\omega_4^3\omega_6\omega_3cs^2+12\omega_4^3v_2^2\omega_3^2-6\omega_4^2\omega_6^2\omega_3^3cs^2-4\omega_4^3v_2^2\omega_6^2\omega_3^3-6\omega_4^3v_2^2\omega_3^3+24\omega_4^2v_2^2\omega_6^2\omega_3-14\omega_4^3\omega_6^2\omega_3^2cs^2+22\omega_4^3v_2^2\omega_6^2\omega_3^2-18\omega_4^3v_2^2\omega_6^2\omega_3+12\omega_4^2\omega_6^2\omega_3^2cs^2-12\omega_4^3\omega_6^2cs^2-48\omega_4^2v_2^2\omega_6^2\omega_3^2+22\omega_4^2v_2^2\omega_6^2\omega_3^3+\omega_4^3\omega_6^2\omega_3^3cs^2+6\omega_4\omega_6^2\omega_3^3cs^2+12v_2^2\omega_6^2\omega_3^3+6\omega_4^3\omega_3^3cs^2+12\omega_4^3v_2^2\omega_6\omega_3-6\omega_4^3\omega_6\omega_3^3cs^2+24\omega_4v_2^2\omega_6^2\omega_3^2+24\omega_4^3\omega_6^2\omega_3cs^2-24\omega_4^3v_2^2\omega_6\omega_3^2-12\omega_4\omega_6^2\omega_3^2cs^2+24\omega_4^3\omega_6\omega_3^2cs^2-30\omega_4v_2^2\omega_6^2\omega_3^3+6\omega_4^3v_2^2\omega_6\omega_3^3-12\omega_4^3\omega_3^2cs^2)\frac{\rho v_3}{12\omega_4^3\omega_6^2\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_t\mathrm{D}_z^3v_3}$ **at** $\frac{\partial^4v_3}{\partial t\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_t\mathrm{D}_z^3v_3}=(-36+34\omega^2cs^2-108\omega v_3^2-2\omega^3cs^2+60cs^2+54\omega+\omega^3+72v_3^2-20\omega^2-3\omega^3v_3^2-90\omega cs^2+42\omega^2v_3^2)\frac{\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_t\mathrm{D}_z^3v_3}=(-2\omega_7^2\omega_4^3cs^2+6\omega_4^3+36\omega_7\omega_4^2-12\omega_4^2-3\omega_7^2\omega_4^3v_3^2-9\omega_7\omega_4^3+12\omega_7^2v_3^2+25\omega_7^2\omega_4^2cs^2+48\omega_7\omega_4v_3^2+24\omega_7^2cs^2-24\omega_7\omega_4+27\omega_7^2\omega_4^2v_3^2+24\omega_7\omega_4cs^2-6\omega_4^3cs^2+12\omega_7^2\omega_4-36\omega_7\omega_4^2cs^2-42\omega_7^2\omega_4v_3^2-6\omega_4^3v_3^2-60\omega_7\omega_4^2v_3^2-48\omega_7^2\omega_4cs^2+9\omega_7\omega_4^3cs^2+\omega_7^2\omega_4^3+12\omega_4^2cs^2+15\omega_7\omega_4^3v_3^2+12\omega_4^2v_3^2-11\omega_7^2\omega_4^2)\frac{\rho}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_t\mathrm{D}_z^3v_3}=$
$(24\omega_7^2cs^2+6\omega_4^3+24\omega_7\omega_4cs^2+36\omega_7\omega_4^2-12\omega_4^2-3\omega_7^2\omega_4^3v_3^2-9\omega_7\omega_4^3+25\omega_7^2\omega_4^2cs^2+12\omega_7^2v_3^2+48\omega_7\omega_4v_3^2-2\omega_7^2\omega_4^3cs^2-24\omega_7\omega_4+27\omega_7^2\omega_4^2v_3^2+12\omega_7^2\omega_4-42\omega_7^2\omega_4v_3^2+9\omega_7\omega_4^3cs^2-6\omega_4^3v_3^2-60\omega_7\omega_4^2v_3^2+12\omega_4^2cs^2+\omega_7^2\omega_4^3-48\omega_7^2\omega_4cs^2+15\omega_7\omega_4^3v_3^2-6\omega_4^3cs^2-36\omega_7\omega_4^2cs^2+12\omega_4^2v_3^2-11\omega_7^2\omega_4^2)\frac{\rho}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_t\mathrm{D}_z^3v_3}=$
$(6\omega_4^3+9\omega_7\omega_4^3cs^2+36\omega_7\omega_4^2+12\omega_4^2cs^2-12\omega_4^2-3\omega_7^2\omega_4^3v_3^2-9\omega_7\omega_4^3-6\omega_4^3cs^2-36\omega_7^2v_3^2-36\omega_7\omega_4^2cs^2+72\omega_7\omega_4v_3^2-24\omega_7\omega_4+15\omega_7^2\omega_4^2v_3^2-48\omega_7^2\omega_4cs^2+12\omega_7^2\omega_4+18\omega_7^2\omega_4v_3^2+25\omega_7^2\omega_4^2cs^2+24\omega_7^2cs^2-18\omega_4^3v_3^2+24\omega_7\omega_4cs^2-108\omega_7\omega_4^2v_3^2-2\omega_7^2\omega_4^3cs^2+\omega_7^2\omega_4^3+27\omega_7\omega_4^3v_3^2+36\omega_4^2v_3^2-11\omega_7^2\omega_4^2)\frac{\rho}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_t\mathrm{D}_z^3v_3}=$

$(6\omega_4^3+36\omega_7\omega_4^2-2\omega_7^2\omega_4^3cs^2-12\omega_4^2-3\omega_7^2\omega_4^3v_3^2-9\omega_7\omega_4^3+24\omega_7^2cs^2-36\omega_7^2v_3^2+24\omega_7\omega_4cs^2+72\omega_7\omega_4v_3^2-24\omega_7\omega_4+15\omega_7^2\omega_4^2v_3^2+25\omega_7^2\omega_4^2cs^2+12\omega_7^2\omega_4+18\omega_7^2\omega_4v_3^2-48\omega_7^2\omega_4cs^2-6\omega_4^3cs^2-18\omega_4^3v_3^2-36\omega_7\omega_4^2cs^2-108\omega_7\omega_4^2v_3^2+\omega_7^2\omega_4^3+27\omega_7\omega_4^3v_3^2+9\omega_7\omega_4^3cs^2+36\omega_4^2v_3^2+12\omega_4^2cs^2-11\omega_7^2\omega_4^2)\frac{\rho}{12\omega_7^2\omega_4^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3\rho}$ **at** $\frac{\partial^4\rho}{\partial x_1\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^3\rho} = (24-72\omega^2cs^2+6\omega^3cs^2-120cs^2-36\omega-\omega^3+14\omega^2+180\omega cs^2)\frac{v_1v_3}{6\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^3\rho} = (-3\omega_7\omega_4^3\omega_2^2-30\omega_7^2\omega_4\omega_2^3v_3^2-12\omega_7\omega_4^2\omega_2^2v_3^2-12\omega_7^2\omega_4^3\omega_2^2cs^2+6\omega_4^2\omega_2^3+6\omega_7^2\omega_4^3v_3^2-12\omega_7\omega_4^2\omega_2^2cs^2+6\omega_7^2\omega_4^3\omega_2^2v_3^2+78\omega_7^2\omega_4\omega_2^3cs^2+6\omega_7\omega_4^3\omega_2^3+42\omega_7\omega_4^2\omega_2^3v_3^2+6\omega_4^3\omega_2^3cs^2+6\omega_7^2\omega_4^3\omega_2^3cs^2+6\omega_7\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2\omega_2cs^2-6\omega_7^2\omega_4\omega_2^3+12\omega_7^2\omega_4\omega_2^2v_3^2-21\omega_7\omega_4^2\omega_2^3+6\omega_7^2\omega_4^2\omega_2v_3^2-24\omega_7^2\omega_4\omega_2^2cs^2+42\omega_7\omega_4^2\omega_2^3cs^2+6\omega_4^3\omega_2^2v_3^2-3\omega_4^3\omega_2^3+12\omega_7\omega_4\omega_2^3-12\omega_7^2\omega_4^2\omega_2^2v_3^2+6\omega_7\omega_4^3\omega_2^2cs^2-3\omega_7^2\omega_4^2\omega_2^2-24\omega_7\omega_4\omega_2^3v_3^2-36\omega_7^2\omega_2^3cs^2-24\omega_7\omega_4\omega_2^3cs^2+24\omega_7^2\omega_2^3v_3^2+7\omega_7^2\omega_4^2\omega_2^3+42\omega_7^2\omega_4^2\omega_2^2cs^2+6\omega_7\omega_4^3\omega_2^2v_3^2-12\omega_7^2\omega_4^3\omega_2v_3^2+6\omega_7^2\omega_4^2\omega_2^3v_3^2-12\omega_4^2\omega_2^3v_3^2+\omega_7^2\omega_4^3\omega_2^2-12\omega_7\omega_4^3\omega_2^3cs^2-48\omega_7^2\omega_4^2\omega_2^3cs^2-12\omega_4^2\omega_2^3cs^2-\omega_7^2\omega_4^3\omega_2^3-12\omega_7\omega_4^3\omega_2^3v_3^2+6\omega_7^2\omega_4^3\omega_2cs^2)\frac{v_1v_3}{6\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^3\rho} = (42\omega_7^2\omega_4^2cs^2\omega_2^2-12\omega_7\omega_4^3cs^2\omega_2^3-3\omega_7\omega_4^3\omega_2^2-30\omega_7^2\omega_4\omega_2^3v_3^2-12\omega_7\omega_4^2\omega_2^2v_3^2-48\omega_7^2\omega_4^2cs^2\omega_2^3+6\omega_4^2\omega_2^3+6\omega_7\omega_4^3cs^2\omega_2^2-12\omega_4^2cs^2\omega_2^3+6\omega_7^2\omega_4^3v_3^2+6\omega_7^2\omega_4^3\omega_2^2v_3^2+6\omega_7\omega_4^3\omega_2^3+42\omega_7\omega_4^2\omega_2^3v_3^2+6\omega_7\omega_4^2\omega_2^2-6\omega_7^2\omega_4\omega_2^3+12\omega_7^2\omega_4\omega_2^2v_3^2-36\omega_7^2cs^2\omega_2^3-21\omega_7\omega_4^2\omega_2^3+6\omega_7^2\omega_4^2\omega_2v_3^2+6\omega_4^3\omega_2^3v_3^2-3\omega_4^3\omega_2^3-12\omega_7^2\omega_4^2cs^2\omega_2-24\omega_7\omega_4cs^2\omega_2^3+12\omega_7\omega_4\omega_2^3-12\omega_7^2\omega_4^2\omega_2^2v_3^2-3\omega_7^2\omega_4^2\omega_2^2-24\omega_7\omega_4\omega_2^3v_3^2+6\omega_4^3cs^2\omega_2^3-12\omega_7\omega_4^2cs^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2^3+24\omega_7^2\omega_2^3v_3^2+7\omega_7^2\omega_4^2\omega_2^3+6\omega_7\omega_4^3\omega_2^2v_3^2+42\omega_7\omega_4^2cs^2\omega_2^3-12\omega_7^2\omega_4^3cs^2\omega_2^2+6\omega_7^2\omega_4^3cs^2\omega_2-24\omega_7^2\omega_4cs^2\omega_2^2-12\omega_7^2\omega_4^3\omega_2v_3^2+6\omega_7^2\omega_4^2\omega_2^3v_3^2-12\omega_4^2\omega_2^3v_3^2+\omega_7^2\omega_4^3\omega_2^2+78\omega_7^2\omega_4cs^2\omega_2^3-\omega_7^2\omega_4^3\omega_2^3-12\omega_7\omega_4^3\omega_2^3v_3^2)\frac{v_1v_3}{6\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^3\rho} = (-3\omega_7\omega_4^3\omega_2^2+12\omega_7^2\omega_4\omega_2^3v_3^2-24\omega_7\omega_4^3\omega_2^3cs^2+6\omega_4^2\omega_2^3+6\omega_7^2\omega_4^3v_3^2-36\omega_7^2\omega_4^2\omega_2^3cs^2+6\omega_7^2\omega_4^3\omega_2^2v_3^2-36\omega_4^2\omega_2^3cs^2+6\omega_7\omega_4^3\omega_2^2+6\omega_7^2\omega_4^3\omega_2^3cs^2+12\omega_7\omega_4^3\omega_2^2cs^2+12\omega_7\omega_4^2\omega_2^3v_3^2+6\omega_7\omega_4^2\omega_2^2-12\omega_7^2\omega_2^3cs^2-6\omega_7^2\omega_4\omega_2^3+18\omega_4^3\omega_2^3cs^2+12\omega_7\omega_4\omega_2^3-6\omega_7^2\omega_4^2\omega_2^2v_3^2-3\omega_7^2\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2\omega_2cs^2-24\omega_7\omega_4\omega_2^3v_3^2-12\omega_7^2\omega_4\omega_2^2cs^2+36\omega_7^2\omega_4^2\omega_2^2cs^2-3\omega_4^3\omega_2^3+18\omega_4^3\omega_2^3cs^2+12\omega_7\omega_4\omega_2^3+6\omega_7^2\omega_4^3\omega_2^2cs^2-6\omega_7^2\omega_4^2\omega_2^2v_3^2-3\omega_7^2\omega_4^2\omega_2^2-12\omega_7^2\omega_4^2\omega_2cs^2-24\omega_7\omega_4\omega_2^3v_3^2-12\omega_7^2\omega_4\omega_2^2cs^2+7\omega_7^2\omega_4^2\omega_2^3+72\omega_7\omega_4^2\omega_2^3cs^2-12\omega_7^2\omega_4^3\omega_2v_3^2-6\omega_7^2\omega_4^2\omega_2^3v_3^2-12\omega_7^2\omega_4^3\omega_2^2cs^2+12\omega_4^2\omega_2^3v_3^2+\omega_7^2\omega_4^3\omega_2^2-\omega_7^2\omega_4^3\omega_2^3-24\omega_7\omega_4^2\omega_2^2cs^2+36\omega_7^2\omega_4\omega_2^3cs^2)\frac{v_1v_3}{6\omega_7^2\omega_4^3\omega_2^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^3\rho} = (-3\omega_7\omega_4^3\omega_2^2+12\omega_7^2\omega_4\omega_2^3v_3^2-24\omega_7\omega_4^2\omega_2^2cs^2+36\omega_7^2\omega_4\omega_2^3cs^2+6\omega_4^2\omega_2^3+6\omega_7^2\omega_4^3v_3^2+6\omega_7^2\omega_4^3\omega_2^2v_3^2-12\omega_7^2\omega_4^3\omega_2^2cs^2+6\omega_7\omega_4^3\omega_2^2+12\omega_7\omega_4^2\omega_2^3v_3^2-12\omega_7^2\omega_4\omega_2^2cs^2+6\omega_7\omega_4^2\omega_2^2+72\omega_7\omega_4^2\omega_2^3cs^2-6\omega_7^2\omega_4\omega_2^3+18\omega_4^3\omega_2^3cs^2+6\omega_7^2\omega_4^3\omega_2^3cs^2-21\omega_7\omega_4^2\omega_2^3+6\omega_7^2\omega_4^2\omega_2v_3^2-12\omega_7^2\omega_4^2\omega_2cs^2-6\omega_4^3\omega_2^3v_3^2-3\omega_4^3\omega_2^3-24\omega_7\omega_4\omega_2^3cs^2+12\omega_7\omega_4\omega_2^3-6\omega_7^2\omega_4^2\omega_2^2v_3^2-3\omega_7^2\omega_4^2\omega_2^2-24\omega_7\omega_4\omega_2^3v_3^2+36\omega_7^2\omega_4^2\omega_2^2cs^2+12\omega_7\omega_4^3\omega_2^2cs^2+7\omega_7^2\omega_4^2\omega_2^3-12\omega_7^2\omega_2^3cs^2-12\omega_7^2\omega_4^3\omega_2v_3^2-36\omega_7^2\omega_4^2\omega_2^3cs^2-36\omega_4^2\omega_2^3cs^2-6\omega_7^2\omega_4^2\omega_2^3v_3^2+12\omega_4^2\omega_2^3v_3^2+6\omega_7^2\omega_4^3\omega_2cs^2+\omega_7^2\omega_4^3\omega_2^2-\omega_7^2\omega_4^3\omega_2^3-24\omega_7\omega_4^3\omega_2^3cs^2)\frac{v_1v_3}{6\omega_7^2\omega_4^3\omega_2^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3v_1}$ **at** $\frac{\partial^4v_1}{\partial x_1\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^3v_1} = (36-56\omega^2cs^2+54\omega v_3^2+4\omega^3cs^2-96cs^2-54\omega-\omega^3-36v_3^2+20\omega^2+\omega^3v_3^2+144\omega cs^2-20\omega^2v_3^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^3v_1} =$
$(4\omega_7^2\omega_4^3cs^2-6\omega_4^3-36\omega_7\omega_4^2+12\omega_4^2+\omega_7^2\omega_4^3v_3^2+9\omega_7\omega_4^3+12\omega_7^2v_3^2-44\omega_7^2\omega_4^2cs^2-36\omega_7\omega_4v_3^2-48\omega_7^2cs^2+24\omega_7\omega_4-8\omega_7^2\omega_4^2v_3^2-36\omega_7\omega_4cs^2+6\omega_4^3cs^2-12\omega_7^2\omega_4+48\omega_7^2\omega_4^2cs^2+6\omega_4^3v_3^2+48\omega_7\omega_4^2v_3^2+90\omega_7^2\omega_4cs^2-12\omega_7\omega_4^3cs^2-\omega_7^2\omega_4^3-12\omega_4^2cs^2-12\omega_7\omega_4^3v_3^2-12\omega_4^2v_3^2+11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^3v_1} =$
$(-48\omega_7^2cs^2-6\omega_4^3-36\omega_7\omega_4cs^2-36\omega_7\omega_4^2+12\omega_4^2+\omega_7^2\omega_4^3v_3^2+9\omega_7\omega_4^3-44\omega_7^2\omega_4^2cs^2+12\omega_7^2v_3^2-36\omega_7\omega_4v_3^2+4\omega_7^2\omega_4^3cs^2+24\omega_7\omega_4-8\omega_7^2\omega_4^2v_3^2-12\omega_7^2\omega_4-12\omega_7^2\omega_4^3cs^2+6\omega_4^3v_3^2+48\omega_7\omega_4^2v_3^2-12\omega_4^2cs^2-\omega_7^2\omega_4^3+90\omega_7^2\omega_4cs^2-12\omega_7\omega_4^3v_3^2+6\omega_4^3cs^2+48\omega_7\omega_4^2cs^2-12\omega_4^2v_3^2+11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^3v_1} =$
$(-6\omega_4^3-30\omega_7\omega_4^3cs^2-36\omega_7\omega_4^2-60\omega_4^2cs^2+12\omega_4^2+\omega_7^2\omega_4^3v_3^2+9\omega_7\omega_4^3+30\omega_4^3cs^2+12\omega_7^2v_3^2+96\omega_7\omega_4^2cs^2-60\omega_7\omega_4v_3^2+24\omega_7\omega_4-14\omega_7^2\omega_4^2v_3^2+18\omega_7^2\omega_4cs^2-12\omega_7^2\omega_4+12\omega_7^2\omega_4v_3^2-26\omega_7^2\omega_4^2cs^2-6\omega_4^3v_3^2-36\omega_7\omega_4cs^2+48\omega_7\omega_4^2v_3^2+4\omega_7^2\omega_4^3cs^2-\omega_7^2\omega_4^3-6\omega_7\omega_4^3v_3^2+12\omega_4^2v_3^2+11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^3v_1} =$
$(-6\omega_4^3-36\omega_7\omega_4^2+4\omega_7^2\omega_4^3cs^2+12\omega_4^2+\omega_7^2\omega_4^3v_3^2+9\omega_7\omega_4^3+12\omega_7^2v_3^2-36\omega_7\omega_4cs^2-60\omega_7\omega_4v_3^2+24\omega_7\omega_4-14\omega_7^2\omega_4^2v_3^2-26\omega_7^2\omega_4^2cs^2-12\omega_7^2\omega_4+12\omega_7^2\omega_4v_3^2+18\omega_7^2\omega_4cs^2+30\omega_4^3cs^2-6\omega_4^3v_3^2+96\omega_7\omega_4^2cs^2+48\omega_7\omega_4^2v_3^2-\omega_7^2\omega_4^3-6\omega_7\omega_4^3v_3^2-30\omega_7\omega_4^3cs^2+12\omega_4^2v_3^2-60\omega_4^2cs^2+11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

coefficient $C^{(0)}_{\mathrm{D}_x\mathrm{D}_z^3v_3}$ **at** $\frac{\partial^4v_3}{\partial x_1\partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_x\mathrm{D}_z^3v_3} = (12-56\omega^2cs^2+18\omega v_3^2+4\omega^3cs^2-96cs^2-18\omega-\omega^3-12v_3^2+8\omega^2+3\omega^3v_3^2+144\omega cs^2-12\omega^2v_3^2)\frac{v_1\rho}{12\omega^3}$

$$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_x\mathrm{D}_z^3 v_3} = (-6\omega_7\omega_4^3\omega_2^2 - 30\omega_7^2\omega_4\omega_2^3 v_3^2 - 24\omega_7\omega_4^2\omega_2^2 v_3^2 - 12\omega_7^2\omega_4^3\omega_2^2 cs^2 + 12\omega_7^2\omega_4^3 v_3^2 - 24\omega_7\omega_4^2\omega_2^2 cs^2 + 36\omega_7^2\omega_4\omega_2^3 cs^2 + 3\omega_7\omega_4^3\omega_2^2 + 36\omega_7\omega_4^2\omega_2^3 v_3^2 + 6\omega_4^3\omega_2^3 cs^2 + 4\omega_7^2\omega_4^3\omega_2^3 cs^2 + 12\omega_7\omega_4^2\omega_2^2 - 12\omega_7^2\omega_4^2\omega_2 cs^2 - 6\omega_7\omega_4^2\omega_2^3 - 24\omega_7^2\omega_4\omega_2^2 cs^2 + 36\omega_7^2\omega_4^2\omega_2^3 cs^2 + 6\omega_4^3\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_2^2 v_3^2 + 12\omega_7^2\omega_4^2\omega_2^2 v_3^2 + 12\omega_7\omega_4^3\omega_2^2 cs^2 - 6\omega_7^2\omega_4^2\omega_2^2 - 12\omega_7\omega_4\omega_2^3 v_3^2 - 12\omega_7^2\omega_2^3 cs^2 - 12\omega_7\omega_4\omega_2^3 cs^2 + 24\omega_7^2\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_2^3 + 48\omega_7^2\omega_4^2\omega_2^2 cs^2 + 12\omega_7\omega_4^3\omega_2^2 v_3^2 - 18\omega_7^2\omega_4^3\omega_2 v_3^2 - 12\omega_4^2\omega_2^3 v_3^2 + 2\omega_7^2\omega_4^3\omega_2^2 - 12\omega_7\omega_4^3\omega_2^3 cs^2 - 32\omega_7^2\omega_4^2\omega_2^3 cs^2 - 12\omega_4^2\omega_2^3 cs^2 - \omega_7^2\omega_4^3\omega_2^3 - 12\omega_7\omega_4^3\omega_2^3 v_3^2 + 6\omega_7^2\omega_4^3\omega_2 cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$$

$$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_x\mathrm{D}_z^3 v_3} = (48\omega_7^2\omega_4^2 cs^2\omega_2^2 - 12\omega_7\omega_4^3 cs^2\omega_2^3 - 6\omega_7\omega_4^3\omega_2^2 - 30\omega_7^2\omega_4\omega_2^3 v_3^2 - 24\omega_7\omega_4^2\omega_2^2 v_3^2 - 32\omega_7^2\omega_4^2 cs^2\omega_2^3 + 12\omega_7\omega_4^3 cs^2\omega_2^2 - 12\omega_4^2 cs^2\omega_2^3 + 12\omega_7^2\omega_4^3\omega_2^3 v_3^2 + 3\omega_7\omega_4^3\omega_2^3 + 36\omega_7\omega_4^2\omega_2^3 v_3^2 + 12\omega_7\omega_4^2\omega_2^2 - 12\omega_7^2 cs^2\omega_2^3 - 6\omega_7\omega_4^2\omega_2^3 + 6\omega_4^3\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_2^3 v_3^2 - 12\omega_7^2\omega_4^2 cs^2\omega_2 - 12\omega_7\omega_4 cs^2\omega_2^3 + 12\omega_7^2\omega_4^2\omega_2^2 v_3^2 - 6\omega_7^2\omega_4^2\omega_2^2 - 12\omega_7\omega_4\omega_2^3 v_3^2 + 6\omega_4^3 cs^2\omega_2^3 - 24\omega_7\omega_4^2 cs^2\omega_2^2 + 4\omega_7^2\omega_4^3 cs^2\omega_2^3 + 24\omega_7^2\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_2^3 + 12\omega_7\omega_4^3\omega_2^2 v_3^2 + 36\omega_7\omega_4^2 cs^2\omega_2^3 - 12\omega_7^2\omega_4^3 cs^2\omega_2^2 + 6\omega_7^2\omega_4^3 cs^2\omega_2 - 24\omega_7^2\omega_4 cs^2\omega_2^2 - 18\omega_7^2\omega_4^3\omega_2 v_3^2 - 12\omega_4^2\omega_2^3 v_3^2 + 2\omega_7^2\omega_4^3\omega_2^2 + 36\omega_7^2\omega_4 cs^2\omega_2^3 - \omega_7^2\omega_4^3\omega_2^3 - 12\omega_7\omega_4^3\omega_2^3 v_3^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$$

$$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_x\mathrm{D}_z^3 v_3} = (-6\omega_7\omega_4^3\omega_2^2 + 30\omega_7^2\omega_4\omega_2^3 v_3^2 - 24\omega_7\omega_4^2\omega_2^2 v_3^2 - 12\omega_7\omega_4^3\omega_2^3 cs^2 + 12\omega_7^2\omega_4^3 v_3^2 - 32\omega_7^2\omega_4^2\omega_2^3 cs^2 - 12\omega_4^2\omega_2^3 cs^2 + 3\omega_7\omega_4^3\omega_2^2 + 6\omega_7^2\omega_4^3\omega_2 cs^2 + 12\omega_7\omega_4^3\omega_2^2 cs^2 - 12\omega_7\omega_4^2\omega_2^3 v_3^2 + 12\omega_7\omega_4^2\omega_2^2 - 12\omega_7^2\omega_2^3 cs^2 - 12\omega_7\omega_4\omega_2^3 cs^2 - 6\omega_7\omega_4^2\omega_2^3 - 6\omega_4^3\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_2^3 v_3^2 + 48\omega_7^2\omega_4^2\omega_2^2 cs^2 + 6\omega_4^3\omega_2^3 cs^2 + 4\omega_7^2\omega_4^3\omega_2^3 cs^2 + 12\omega_7^2\omega_4^2\omega_2^2 v_3^2 - 6\omega_7^2\omega_4^2\omega_2^2 - 12\omega_7^2\omega_4^2\omega_2 cs^2 + 12\omega_7\omega_4\omega_2^3 v_3^2 - 24\omega_7^2\omega_4\omega_2^2 cs^2 - 24\omega_7^2\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_2^3 + 12\omega_7\omega_4^3\omega_2^2 v_3^2 + 36\omega_7\omega_4^2\omega_2^3 cs^2 - 18\omega_7^2\omega_4^3\omega_2 v_3^2 - 12\omega_7^2\omega_4^2\omega_2^3 v_3^2 - 12\omega_7^2\omega_4^3\omega_2^2 cs^2 + 12\omega_4^2\omega_2^3 v_3^2 + 2\omega_7^2\omega_4^3\omega_2^2 - \omega_7^2\omega_4^3\omega_2^3 - 24\omega_7\omega_4^2\omega_2^2 cs^2 + 36\omega_7^2\omega_4\omega_2^3 cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$$

$$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_x\mathrm{D}_z^3 v_3} = (-6\omega_7\omega_4^3\omega_2^2 + 30\omega_7^2\omega_4\omega_2^3 v_3^2 - 24\omega_7\omega_4^2\omega_2^2 cs^2 + 36\omega_7^2\omega_4\omega_2^3 cs^2 - 24\omega_7\omega_4^2\omega_2^2 v_3^2 + 12\omega_7^2\omega_4^3 v_3^2 - 12\omega_7^2\omega_4^3\omega_2^2 cs^2 + 3\omega_7\omega_4^3\omega_2^2 - 12\omega_7\omega_4^2\omega_2^3 v_3^2 + 12\omega_7^2\omega_4^2\omega_2^2 v_3^2 - 24\omega_7^2\omega_4\omega_2^3 cs^2 + 36\omega_7^2\omega_4^2\omega_2^3 cs^2 + 6\omega_4^3\omega_2^3 cs^2 + 4\omega_7^2\omega_4^3\omega_2^3 cs^2 - 6\omega_7^2\omega_4^2\omega_2^2 - 12\omega_7^2\omega_4^2\omega_2 cs^2 + 12\omega_7\omega_4\omega_2^3 v_3^2 - 24\omega_7^2\omega_4\omega_2^2 cs^2 - 24\omega_7^2\omega_2^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_2^3 + 12\omega_7\omega_4^3\omega_2^2 v_3^2 + 36\omega_7\omega_4^2\omega_2^3 cs^2 - 18\omega_7^2\omega_4^3\omega_2 v_3^2 - 32\omega_7^2\omega_4^2\omega_2^3 cs^2 - 12\omega_4^2\omega_2^3 cs^2 - 12\omega_7^2\omega_4^2\omega_2^3 v_3^2 + 12\omega_4^2\omega_2^3 v_3^2 + 6\omega_7^2\omega_4^3\omega_2 cs^2 + 2\omega_7^2\omega_4^3\omega_2^2 - \omega_7^2\omega_4^3\omega_2^3 - 12\omega_7\omega_4^3\omega_2^3 cs^2)\frac{v_1\rho}{12\omega_7^2\omega_4^3\omega_2^3}$$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3\rho}$ **at** $\frac{\partial^4\rho}{\partial x_2\partial x_3^3}$**:**

$$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^3\rho} = (24 - 72\omega^2 cs^2 + 6\omega^3 cs^2 - 120cs^2 - 36\omega - \omega^3 + 14\omega^2 + 180\omega cs^2)\frac{v_2 v_3}{6\omega^3}$$

$$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^3\rho} = (-\omega_7^2\omega_4^3\omega_3^3 - 12\omega_7^2\omega_4^3\omega_3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 cs^2 + 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 12\omega_4^2\omega_3^3 v_3^2 + 6\omega_7^2\omega_4^3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 v_3^2 - 48\omega_7^2\omega_4^2\omega_3^3 cs^2 - 12\omega_4^2\omega_3^3 cs^2 + \omega_7^2\omega_4^3\omega_3^2 + 6\omega_7^2\omega_4^3\omega_3 cs^2 + 6\omega_7\omega_4^3\omega_3^2 cs^2 - 12\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 24\omega_7\omega_4\omega_3^3 v_3^2 + 7\omega_7^2\omega_4^2\omega_3^3 - 36\omega_7^2\omega_3^3 cs^2 + 12\omega_7\omega_4\omega_3^3 - 24\omega_7\omega_4\omega_3^3 cs^2 + 24\omega_7^2\omega_3^3 v_3^2 - 3\omega_7^2\omega_4^2\omega_3^2 + 6\omega_7\omega_4^3\omega_3^2 v_3^2 + 42\omega_7^2\omega_4^2\omega_3^2 cs^2 + 6\omega_4^3\omega_3^3 cs^2 + 6\omega_7^2\omega_4^3\omega_3^3 cs^2 + 42\omega_7\omega_4^2\omega_3^3 v_3^2 - 21\omega_7\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^2\omega_3 cs^2 + 12\omega_7^2\omega_4^3\omega_3^2 v_3^2 - 3\omega_4^3\omega_3^3 + 6\omega_7^2\omega_4^3\omega_3 v_3^2 - 24\omega_7^2\omega_4^3\omega_3 cs^2 + 6\omega_4^3\omega_3^3 v_3^2 + 6\omega_7\omega_4^2\omega_3^3 - 6\omega_7^2\omega_4^2\omega_3^2 + 6\omega_7\omega_4^3\omega_3^2 cs^2 + 42\omega_7^2\omega_4^2\omega_3^3 cs^2 + 6\omega_4^2\omega_3^3 - 30\omega_7^2\omega_4\omega_3^3 v_3^2 - 12\omega_7^2\omega_4^3\omega_3^2 cs^2 + 6\omega_7\omega_4^3\omega_3^3 - 12\omega_7\omega_4^2\omega_3^2 v_3^2 - 3\omega_7\omega_4^3\omega_3^2 + 6\omega_7^2\omega_4^3\omega_3^2 v_3^2 - 12\omega_7\omega_4^2\omega_3^2 cs^2 + 78\omega_7^2\omega_4\omega_3^3 cs^2)\frac{v_2 v_3}{6\omega_7^2\omega_4^3\omega_3^3}$$

$$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^3\rho} = (78\omega_7^2\omega_4 cs^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 - 12\omega_7^2\omega_4^3\omega_3 v_3^2 + 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 12\omega_4^2\omega_3^3 v_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3 - 24\omega_7^2\omega_4 cs^2\omega_3^2 + 6\omega_7^2\omega_4^3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 v_3^2 + \omega_7^2\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^3\omega_3^2 v_3^2 - 24\omega_7\omega_4\omega_3^3 v_3^2 + 7\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^3 cs^2\omega_3^2 + 42\omega_7\omega_4^2 cs^2\omega_3^3 + 12\omega_7\omega_4\omega_3^3 + 24\omega_7^2\omega_3^3 v_3^2 - 3\omega_7^2\omega_4^2\omega_3^2 + 6\omega_7\omega_4^3\omega_3^2 v_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3^3 + 6\omega_4^3 cs^2\omega_3^3 - 12\omega_7\omega_4^2 cs^2\omega_3^2 + 42\omega_7\omega_4^2\omega_3^3 v_3^2 - 21\omega_7\omega_4^2\omega_3^3 + 12\omega_7^2\omega_4\omega_3^3 v_3^2 - 3\omega_4^3\omega_3^3 - 12\omega_7^2\omega_4^2 cs^2\omega_3 - 24\omega_7\omega_4 cs^2\omega_3^3 + 6\omega_7^2\omega_4^2\omega_3 v_3^2 + 6\omega_4^3\omega_3^3 v_3^2 + 6\omega_7\omega_4^2\omega_3^3 - 6\omega_7^2\omega_4\omega_3^3 - 36\omega_7^2 cs^2\omega_3^3 + 6\omega_7\omega_4^3 cs^2\omega_3^3 - 12\omega_4^2 cs^2\omega_3^3 - 48\omega_7^2\omega_4^2 cs^2\omega_3^3 + 6\omega_4^2\omega_3^3 - 30\omega_7^2\omega_4\omega_3^3 v_3^2 + 6\omega_7\omega_4^3\omega_3^3 - 12\omega_7\omega_4^2\omega_3^2 v_3^2 - 12\omega_7\omega_4^3 cs^2\omega_3^3 + 42\omega_7^2\omega_4^2 cs^2\omega_3^3 - 3\omega_7\omega_4^3\omega_3^2 + 6\omega_7^2\omega_4^3\omega_3^2 v_3^2)\frac{v_2 v_3}{6\omega_7^2\omega_4^3\omega_3^3}$$

$$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^3\rho} = (-\omega_7^2\omega_4^3\omega_3^3 - 12\omega_7^2\omega_4^3\omega_3 v_3^2 - 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 12\omega_7^2\omega_4^3 cs^2\omega_3^2 + 12\omega_4^2\omega_3^3 v_3^2 + 72\omega_7\omega_4^2 cs^2\omega_3^3 + 6\omega_7^2\omega_4^3 v_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3^3 - 24\omega_7\omega_4^2 cs^2\omega_3^2 + 18\omega_4^3 cs^2\omega_3^3 + \omega_7^2\omega_4^3\omega_3^2 - 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 24\omega_7\omega_4^3\omega_3^3 v_3^2 + 7\omega_7^2\omega_4^2\omega_3^3 + 36\omega_7^2\omega_4 cs^2\omega_3^3 + 12\omega_7\omega_4\omega_3^3 - 3\omega_7^2\omega_4^2\omega_3^2 - 12\omega_7^2\omega_4 cs^2\omega_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3 - 36\omega_4^2 cs^2\omega_3^3 + 12\omega_7\omega_4^3 cs^2\omega_3^2 + 12\omega_7\omega_4^2\omega_3^3 v_3^2 - 21\omega_7\omega_4^2\omega_3^3 - 36\omega_7^2\omega_4^2 cs^2\omega_3^3 - 3\omega_4^3\omega_3^3 + 6\omega_7^2\omega_4^2\omega_3 v_3^2 - 6\omega_4^3\omega_3^3 v_3^2 - 24\omega_7\omega_4^2 cs^2\omega_3^3 + 6\omega_7\omega_4^2\omega_3^2 + 36\omega_7^2\omega_4^2 cs^2\omega_3^2 - 6\omega_7^2\omega_4\omega_3^3 + 6\omega_4^2\omega_3^3 + 12\omega_7^2\omega_4\omega_3^3 v_3^2 - 24\omega_7\omega_4 cs^2\omega_3^3 - 12\omega_7^2\omega_4^2 cs^2\omega_3 + 6\omega_7\omega_4^3\omega_3^3 - 3\omega_7\omega_4^3\omega_3^2 + 6\omega_7^2\omega_4^3\omega_3^2 v_3^2 - 12\omega_7^2 cs^2\omega_3^3)\frac{v_2 v_3}{6\omega_7^2\omega_4^3\omega_3^3}$$

$$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^3\rho} = (-\omega_7^2\omega_4^3\omega_3^3 - 36\omega_7^2\omega_4^2\omega_3^3 cs^2 - 36\omega_4^2\omega_3^3 cs^2 - 12\omega_7^2\omega_4^3\omega_3 v_3^2 + 6\omega_7^2\omega_4^3\omega_3 cs^2 - 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 + 12\omega_4^2\omega_3^3 v_3^2 + 6\omega_7^2\omega_4^3 v_3^2 + \omega_7^2\omega_4^3\omega_3^2 - 24\omega_7\omega_4^3\omega_3^3 cs^2 - 24\omega_7\omega_4\omega_3^3 cs^2 - 6\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 24\omega_7\omega_4\omega_3^3 v_3^2 + 36\omega_7^2\omega_4^2\omega_3^3 cs^2 + 7\omega_7^2\omega_4^2\omega_3^3 + 12\omega_7\omega_4\omega_3^3 + 12\omega_7\omega_4^3\omega_3^2 cs^2 - 3\omega_7^2\omega_4^2\omega_3^2 - 12\omega_7^2\omega_3^3 cs^2 + 12\omega_7\omega_4^2\omega_3^3 v_3^2 - 21\omega_7\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4\omega_3^3 cs^2 + 72\omega_7\omega_4^2\omega_3^3 cs^2 - 3\omega_4^3\omega_3^3 + 6\omega_7^2\omega_4^2\omega_3 v_3^2 + 18\omega_4^3\omega_3^3 cs^2 + 6\omega_7^2\omega_4^3\omega_3^2 cs^2 - 6\omega_4^3\omega_3^3 v_3^2 + 6\omega_7\omega_4^2\omega_3^2 - 12\omega_7^2\omega_4^2\omega_3 cs^2 - 6\omega_7^2\omega_4\omega_3^3 + 6\omega_4^2\omega_3^3 + 12\omega_7^2\omega_4\omega_3^3 v_3^2 - 24\omega_7\omega_4^2\omega_3^2 cs^2 + 36\omega_7^2\omega_4\omega_3^3 cs^2 + 6\omega_7\omega_4^3\omega_3^3 - 3\omega_7\omega_4^3\omega_3^2 + 6\omega_7^2\omega_4^3\omega_3^2 v_3^2 - 12\omega_7^2\omega_4^3\omega_3^2 cs^2)\frac{v_2 v_3}{6\omega_7^2\omega_4^3\omega_3^3}$$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3 v_2}$ **at** $\frac{\partial^4 v_2}{\partial x_2\partial x_3^3}$**:**

$$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} = (36 - 56\omega^2 cs^2 + 54\omega v_3^2 + 4\omega^3 cs^2 - 96cs^2 - 54\omega - \omega^3 - 36v_3^2 + 20\omega^2 + \omega^3 v_3^2 + 144\omega cs^2 - 20\omega^2 v_3^2)\frac{\rho v_3}{12\omega^3}$$

$$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} =$$
$$(4\omega_7^2\omega_4^3 cs^2 - 6\omega_4^3 - 36\omega_7\omega_4^2 + 12\omega_4^2 + \omega_7^2\omega_4^3 v_3^2 + 9\omega_7\omega_4^3 + 12\omega_7^2 v_3^2 - 44\omega_7^2\omega_4^2 cs^2 - 36\omega_7\omega_4 v_3^2 - 48\omega_7^2 cs^2 + 24\omega_7\omega_4 - 8\omega_7^2\omega_4^2 v_3^2 - 36\omega_7\omega_4 cs^2 + 6\omega_4^3 cs^2 - 12\omega_7^2\omega_4 + 48\omega_7\omega_4^2 cs^2 + 6\omega_4^3 v_3^2 + 48\omega_7\omega_4^2 v_3^2 + 90\omega_7^2\omega_4 cs^2 - 12\omega_7\omega_4^3 cs^2 - \omega_7^2\omega_4^3 - 12\omega_4^2 cs^2 - 12\omega_7\omega_4^3 v_3^2 - 12\omega_4^2 v_3^2 + 11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} =$
$(-48\omega_7^2 cs^2 - 6\omega_4^3 - 36\omega_7\omega_4 cs^2 - 36\omega_7\omega_4^2 + 12\omega_4^2 + \omega_7^2\omega_4^3 v_3^2 + 9\omega_7\omega_4^3 - 44\omega_7^2\omega_4^2 cs^2 + 12\omega_7^2 v_3^2 - 36\omega_7\omega_4 v_3^2 + 4\omega_7^2\omega_4^3 cs^2 + 24\omega_7\omega_4 - 8\omega_7^2\omega_4^2 v_3^2 -$
$12\omega_7^2\omega_4 - 12\omega_7\omega_4^3 cs^2 + 6\omega_4^3 v_3^2 + 48\omega_7\omega_4^2 v_3^2 - 12\omega_4^2 cs^2 - \omega_7^2\omega_4^3 + 90\omega_7^2\omega_4 cs^2 - 12\omega_7\omega_4^3 v_3^2 + 6\omega_4^3 cs^2 + 48\omega_7\omega_4^2 cs^2 - 12\omega_4^2 v_3^2 + 11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} =$
$(-6\omega_4^3 - 30\omega_7\omega_4^3 cs^2 - 36\omega_7\omega_4^2 - 60\omega_4^2 cs^2 + 12\omega_4^2 + \omega_7^2\omega_4^3 v_3^2 + 9\omega_7\omega_4^3 + 30\omega_4^3 cs^2 + 12\omega_7^2 v_3^2 + 96\omega_7\omega_4^2 cs^2 - 60\omega_7\omega_4 v_3^2 + 24\omega_7\omega_4 - 14\omega_7^2\omega_4^2 v_3^2 +$
$18\omega_7^2\omega_4 cs^2 - 12\omega_7^2\omega_4 + 12\omega_7^2\omega_4 v_3^2 - 26\omega_7^2\omega_4^2 cs^2 - 6\omega_4^3 v_3^2 - 36\omega_7\omega_4 cs^2 + 48\omega_7\omega_4^2 v_3^2 + 4\omega_7^2\omega_4^3 cs^2 - \omega_7^2\omega_4^3 - 6\omega_7\omega_4^3 v_3^2 + 12\omega_4^2 v_3^2 + 11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^3 v_2} =$
$(-6\omega_4^3 - 36\omega_7\omega_4^2 + 4\omega_7^2\omega_4^3 cs^2 + 12\omega_4^2 + \omega_7^2\omega_4^3 v_3^2 + 9\omega_7\omega_4^3 + 12\omega_7^2 v_3^2 - 36\omega_7\omega_4 cs^2 - 60\omega_7\omega_4 v_3^2 + 24\omega_7\omega_4 - 14\omega_7^2\omega_4^2 v_3^2 - 26\omega_7^2\omega_4^2 cs^2 - 12\omega_7^2\omega_4 +$
$12\omega_7^2\omega_4 v_3^2 + 18\omega_7^2\omega_4 cs^2 + 30\omega_4^3 cs^2 - 6\omega_4^3 v_3^2 + 96\omega_7\omega_4^2 cs^2 + 48\omega_7\omega_4^2 v_3^2 - \omega_7^2\omega_4^3 - 6\omega_7\omega_4^3 v_3^2 - 30\omega_7\omega_4^3 cs^2 + 12\omega_4^2 v_3^2 - 60\omega_4^2 cs^2 + 11\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

coefficient $C^{(0)}_{\mathrm{D}_y\mathrm{D}_z^3 v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_2 \partial x_3^3}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} = (12 - 56\omega^2 cs^2 + 18\omega v_3^2 + 4\omega^3 cs^2 - 96cs^2 - 18\omega - \omega^3 - 12v_3^2 + 8\omega^2 + 3\omega^3 v_3^2 + 144\omega cs^2 - 12\omega^2 v_3^2)\frac{v_2\rho}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} = (-\omega_7^2\omega_4^3\omega_3^3 - 18\omega_7^2\omega_4^3\omega_3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 cs^2 - 12\omega_4^2\omega_3^3 v_3^2 + 12\omega_7^2\omega_4^3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 v_3^2 - 32\omega_7^2\omega_4^2\omega_3^3 cs^2 - 12\omega_4^2\omega_3^3 cs^2 + 2\omega_7^2\omega_4^3\omega_3^2 +$
$6\omega_7^2\omega_4^3\omega_3 cs^2 + 12\omega_7\omega_4^3\omega_3^2 cs^2 + 12\omega_7^2\omega_4^2\omega_3^2 v_3^2 - 12\omega_7\omega_4\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7^2\omega_3^3 cs^2 - 12\omega_7\omega_4\omega_3^3 cs^2 + 24\omega_7^2\omega_3^3 v_3^2 - 6\omega_7^2\omega_4^2\omega_3^2 + 12\omega_7\omega_4^3\omega_3^2 v_3^2 +$
$48\omega_7^2\omega_4^2\omega_3^2 cs^2 + 6\omega_4^3\omega_3^3 cs^2 + 4\omega_7^2\omega_4^3\omega_3^3 cs^2 + 36\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^2\omega_3 cs^2 - 24\omega_7^2\omega_4\omega_3^2 cs^2 + 6\omega_4^3\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_3^3 v_3^2 +$
$12\omega_7\omega_4^2\omega_3^2 + 36\omega_7\omega_4^2\omega_3^3 cs^2 - 30\omega_7^2\omega_4\omega_3^3 v_3^2 - 12\omega_7^2\omega_4^3\omega_3^2 cs^2 + 3\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^3\omega_3^2 - 24\omega_7^2\omega_4^2\omega_3^3 cs^2 + 36\omega_7^2\omega_4\omega_3^3 cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} = (36\omega_7^2\omega_4 cs^2\omega_3^3 - \omega_7^2\omega_4^3\omega_3^3 - 18\omega_7^2\omega_4^3\omega_3 v_3^2 - 12\omega_4^2\omega_3^3 v_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3 - 24\omega_7^2\omega_4 cs^2\omega_3^2 + 12\omega_7^2\omega_4^3 v_3^2 - 12\omega_7\omega_4^3\omega_3^3 v_3^2 + 2\omega_7^2\omega_4^3\omega_3^2 +$
$12\omega_7^2\omega_4^2\omega_3^2 v_3^2 - 12\omega_7\omega_4\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^3 cs^2\omega_3^2 + 36\omega_7\omega_4^2 cs^2\omega_3^3 + 24\omega_7^2\omega_3^3 v_3^2 - 6\omega_7^2\omega_4^2\omega_3^2 + 12\omega_7\omega_4^3\omega_3^2 v_3^2 + 4\omega_7^2\omega_4^3 cs^2\omega_3^2 +$
$6\omega_4^3 cs^2\omega_3^3 - 24\omega_7\omega_4^2 cs^2\omega_3^2 + 36\omega_7\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^2\omega_3^3 - 12\omega_7^2\omega_4^2 cs^2\omega_3 - 12\omega_7\omega_4 cs^2\omega_3^3 + 6\omega_4^3\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_3^3 v_3^2 + 12\omega_7\omega_4^2\omega_3^2 - 12\omega_7^2 cs^2\omega_3^3 +$
$12\omega_7\omega_4^3 cs^2\omega_3^2 - 12\omega_4^2 cs^2\omega_3^3 - 32\omega_7^2\omega_4^2 cs^2\omega_3^3 - 30\omega_7^2\omega_4\omega_3^3 v_3^2 + 3\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2\omega_3^3 v_3^2 - 12\omega_7\omega_4^3 cs^2\omega_3^3 + 48\omega_7^2\omega_4^2 cs^2\omega_3^2 - 6\omega_7\omega_4^3\omega_3^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} = (-\omega_7^2\omega_4^3\omega_3^3 - 18\omega_7^2\omega_4^3\omega_3 v_3^2 - 12\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 12\omega_7^2\omega_4^3 cs^2\omega_3^2 + 12\omega_4^2\omega_3^3 v_3^2 + 36\omega_7\omega_4^2 cs^2\omega_3^3 + 12\omega_7^2\omega_4^3 v_3^2 + 4\omega_7^2\omega_4^3 cs^2\omega_3^2 -$
$24\omega_7\omega_4^2 cs^2\omega_3^2 + 6\omega_4^3 cs^2\omega_3^3 + 2\omega_7^2\omega_4^3\omega_3^2 + 12\omega_7^2\omega_4^2\omega_3^3 v_3^2 + 12\omega_7\omega_4\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^2\omega_3^3 + 36\omega_7^2\omega_4 cs^2\omega_3^3 - 24\omega_7^2\omega_3^3 v_3^2 - 6\omega_7^2\omega_4^2\omega_3^2 - 24\omega_7^2\omega_4 cs^2\omega_3^2 +$
$12\omega_7\omega_4^3\omega_3^2 v_3^2 + 6\omega_7^2\omega_4^3 cs^2\omega_3 - 12\omega_4^2 cs^2\omega_3^3 + 12\omega_7\omega_4^3 cs^2\omega_3^2 - 12\omega_7\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^2\omega_3^3 - 32\omega_7^2\omega_4^2 cs^2\omega_3^3 - 6\omega_4^3\omega_3^3 v_3^2 - 12\omega_7\omega_4^3 cs^2\omega_3^3 + 3\omega_7^2\omega_4^3\omega_3^3 v_3^2 +$
$12\omega_7\omega_4^2\omega_3^2 + 48\omega_7^2\omega_4^2 cs^2\omega_3^2 + 30\omega_7^2\omega_4\omega_3^3 v_3^2 - 12\omega_7\omega_4 cs^2\omega_3^3 - 12\omega_7^2\omega_4^2 cs^2\omega_3 + 3\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^3\omega_3^2 - 12\omega_7^2 cs^2\omega_3^3)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}_y\mathrm{D}_z^3 v_3} = (-\omega_7^2\omega_4^3\omega_3^3 - 32\omega_7^2\omega_4^2\omega_3^3 cs^2 - 12\omega_4^2\omega_3^3 cs^2 - 18\omega_7^2\omega_4^3\omega_3 v_3^2 + 6\omega_7^2\omega_4^3\omega_3 cs^2 - 12\omega_7^2\omega_4^2\omega_3^3 v_3^2 + 12\omega_4^2\omega_3^3 v_3^2 + 12\omega_7^2\omega_4^3 v_3^2 + 2\omega_7^2\omega_4^3\omega_3^2 -$
$12\omega_7\omega_4^3\omega_3^3 cs^2 - 12\omega_7\omega_4\omega_3^3 cs^2 + 12\omega_7^2\omega_4^2\omega_3^2 v_3^2 + 12\omega_7\omega_4\omega_3^3 v_3^2 + 48\omega_7^2\omega_4^2\omega_3^2 cs^2 + 3\omega_7^2\omega_4^2\omega_3^3 - 24\omega_7^2\omega_3^3 v_3^2 + 12\omega_7\omega_4^3\omega_3^2 cs^2 - 6\omega_7^2\omega_4^2\omega_3^2 +$
$12\omega_7\omega_4^3\omega_3^2 v_3^2 - 12\omega_7^2\omega_3^3 cs^2 - 12\omega_7^2\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^2\omega_3^3 - 24\omega_7^2\omega_4\omega_3^3 cs^2 + 36\omega_7^2\omega_4^2\omega_3^3 cs^2 + 6\omega_4^3\omega_3^3 cs^2 + 4\omega_7^2\omega_4^2\omega_3^3 cs^2 - 6\omega_4^3\omega_3^3 v_3^2 + 3\omega_7^2\omega_4^3\omega_3^3 v_3^2 +$
$12\omega_7\omega_4^2\omega_3^2 - 12\omega_7^2\omega_4^2\omega_3 cs^2 + 30\omega_7^2\omega_4\omega_3^3 v_3^2 - 24\omega_7\omega_4^2\omega_3^3 cs^2 + 36\omega_7^2\omega_4\omega_3^3 cs^2 + 3\omega_7\omega_4^3\omega_3^3 - 24\omega_7\omega_4^2\omega_3^3 v_3^2 - 6\omega_7\omega_4^3\omega_3^2 - 12\omega_7^2\omega_4^3\omega_3^2 cs^2)\frac{v_2\rho}{12\omega_7^2\omega_4^3\omega_3^3}$

coefficient $C^{(0)}_{\mathrm{D}_z^4\rho}$ **at** $\frac{\partial^4 \rho}{\partial x_3^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}_z^4\rho} = (-14\omega^2 cs^2 - 108\omega v_3^2 - 42\omega^2 v_3^4 - 72\omega cs^4 + 6\omega^3 cs^2 v_3^2 + 216\omega cs^2 v_3^2 - 72v_3^4 + \omega^3 cs^2 - 144cs^2 v_3^2 - 24cs^2 + 3\omega^3 v_3^4 - 3\omega^3 cs^4 -$
$84\omega^2 cs^2 v_3^2 + 72v_3^2 - 3\omega^3 v_3^2 + 48cs^4 + 108\omega v_3^4 + 30\omega^2 cs^4 + 36\omega cs^2 + 42\omega^2 v_3^2)\frac{1}{24\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}_z^4\rho} = (\omega_7^2\omega_4^3 cs^2 + 6\omega_7\omega_4^3 cs^4 - 24\omega_7\omega_4 v_3^2 cs^2 - 24\omega_4^2 v_3^4 - 3\omega_7^2\omega_4^3 v_3^2 - 18\omega_7\omega_4^3 v_3^4 - 96\omega_7^2 v_3^2 cs^2 - 24\omega_7\omega_4^2 cs^4 + 24\omega_7^2\omega_4 v_3^4 -$
$72\omega_7^2\omega_4^2 v_3^2 cs^2 - 24\omega_4^2 v_3^2 cs^2 - 8\omega_7^2\omega_4^2 cs^2 + 48\omega_7\omega_4 v_3^2 - 12\omega_7\omega_4^3 v_3^2 cs^2 + 72\omega_7\omega_4^2 v_3^4 - 48\omega_7^2\omega_4 cs^4 + 24\omega_7^2\omega_4^2 v_3^2 - 24\omega_7\omega_4\omega_4 cs^2 + 12\omega_4^3 v_3^4 +$
$156\omega_7^2\omega_4 v_3^2 cs^2 + 24\omega_7^2\omega_4^2 cs^4 - 48\omega_7\omega_4 v_3^4 + 24\omega_7\omega_4^2 cs^2 - 24\omega_7^2\omega_4 v_3^2 - 24\omega_7^2\omega_4^2 v_3^4 + 24\omega_7\omega_4\omega_4 cs^4 - 12\omega_4^3 v_3^2 + 24\omega_7^2 cs^4 - 72\omega_7^2\omega_4^2 v_3^2 +$
$12\omega_7^2\omega_4 cs^2 - 6\omega_7\omega_4^3 cs^2 + 48\omega_7^2\omega_4^2 v_3^2 cs^2 - 3\omega_7^2\omega_4^3 cs^4 + 18\omega_7\omega_4^3 v_3^2 + 24\omega_4^2 v_3^2 + 12\omega_4^3 v_3^2 cs^2 + 6\omega_7^2\omega_4^3 v_3^2 cs^2 + 3\omega_7^2\omega_4^3 v_3^4)\frac{1}{24\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}_z^4\rho} = (-48\omega_7^2\omega_4 cs^4 - 24\omega_7\omega_4 cs^2 - 24\omega_7\omega_4^2 cs^4 - 24\omega_4^2 v_3^4 - 3\omega_7^2\omega_4^3 v_3^2 - 18\omega_7\omega_4^3 v_3^4 + 156\omega_7^2\omega_4 cs^2 v_3^2 - 8\omega_7^2\omega_4^2 cs^2 + 12\omega_4^3 cs^2 v_3^2 +$
$6\omega_7^2\omega_4^3 cs^2 v_3^2 + 24\omega_7^2\omega_4 v_3^4 + 48\omega_7\omega_4 v_3^2 + \omega_7^2\omega_4^3 cs^2 + 72\omega_7\omega_4^2 v_3^4 + 48\omega_7\omega_4^2 cs^2 v_3^2 + 24\omega_7^2\omega_4^2 v_3^2 + 6\omega_7\omega_4^3 cs^4 + 12\omega_4^3 v_3^4 - 96\omega_7^2 cs^2 v_3^2 - 48\omega_7\omega_4 v_3^4 -$
$24\omega_7^2\omega_4 v_3^2 - 24\omega_7\omega_4 cs^2 v_3^2 - 24\omega_7^2\omega_4^2 v_3^4 - 6\omega_7\omega_4^3 cs^2 - 12\omega_4^3 v_3^2 - 3\omega_7^2\omega_4^3 cs^4 - 72\omega_7\omega_4^2 v_3^2 + 24\omega_7\omega_4 cs^4 + 24\omega_7^2 cs^4 + 12\omega_7^2\omega_4 cs^2 -$
$12\omega_7\omega_4^3 cs^2 v_3^2 + 18\omega_7\omega_4^3 v_3^2 + 24\omega_7^2\omega_4^2 cs^4 + 24\omega_7\omega_4^2 cs^2 - 72\omega_7^2\omega_4^2 cs^2 v_3^2 + 24\omega_4^2 v_3^2 - 24\omega_4^2 cs^2 v_3^2 + 3\omega_7^2\omega_4^3 v_3^4)\frac{1}{24\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}_z^4\rho} = (108\omega_4^3 cs^2 v_3^2 + 6\omega_7^2\omega_4^3 cs^2 v_3^2 - 6\omega_7\omega_4^3 cs^2 - 3\omega_7^2\omega_4^3 cs^4 + 144\omega_7\omega_4^2 cs^2 v_3^2 - 72\omega_4^2 v_3^4 - 3\omega_7^2\omega_4^3 v_3^2 - 30\omega_7\omega_4^3 v_3^4 + 24\omega_7^2\omega_4^2 cs^4 +$
$24\omega_7\omega_4^2 cs^2 + 24\omega_7\omega_4 cs^4 + 72\omega_7\omega_4^2 v_3^4 - 36\omega_7^2\omega_4 cs^2 v_3^2 + 12\omega_7^2\omega_4^2 v_3^2 + 24\omega_7^2 cs^4 + 12\omega_7^2\omega_4 cs^2 + 36\omega_4^3 v_3^4 - 24\omega_7\omega_4^2 cs^4 - 72\omega_7\omega_4^3 cs^2 v_3^2 -$

$8\omega_7^2\omega_4^2cs^2 - 12\omega_7^2\omega_4^2v_3^4 - 36\omega_4^3v_3^2 - 48\omega_7^2\omega_4cs^4 - 24\omega_7\omega_4cs^2 - 12\omega_7^2\omega_4^2cs^2v_3^2 - 72\omega_7\omega_4^2v_3^2 - 216\omega_4^2cs^2v_3^2 + \omega_7^2\omega_4^3cs^2 + 6\omega_7\omega_4^3cs^4 + 30\omega_7\omega_4^3v_3^2 + 72\omega_7\omega_4cs^2v_3^2 + 72\omega_4^2v_3^2 + 3\omega_7^2\omega_4^3v_3^4)\frac{1}{24\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_z\rho} =$
$(\omega_7^2\omega_4^3cs^2 - 72\omega_4^2v_3^4 - 3\omega_7^2\omega_4^3v_3^2 - 30\omega_7\omega_4^3v_3^4 + 72\omega_7\omega_4v_3^2cs^2 + 6\omega_7\omega_4^3cs^4 - 72\omega_7\omega_4^3v_3^2cs^2 - 48\omega_7^2\omega_4cs^4 - 24\omega_7\omega_4cs^2 - 24\omega_7\omega_4^2cs^4 + 72\omega_7\omega_4^2v_3^4 - 12\omega_7^2\omega_4^2v_3^2cs^2 - 216\omega_4^2v_3^2cs^2 + 12\omega_7^2\omega_4^2v_3^2 - 8\omega_7^2\omega_4^2cs^2 + 36\omega_4^3v_3^4 + 24\omega_7\omega_4cs^4 + 24\omega_7^2cs^4 + 12\omega_7^2\omega_4cs^2 - 36\omega_7^2\omega_4v_3^2cs^2 - 12\omega_7^2\omega_4^2v_3^4 + 24\omega_7^2\omega_4^2cs^4 - 36\omega_4^3v_3^2 + 24\omega_7\omega_4^2cs^2 - 72\omega_7\omega_4^2v_3^2 + 108\omega_4^3v_3^2cs^2 + 6\omega_7^2\omega_4^3v_3^2cs^2 + 30\omega_7\omega_4^3v_3^2 - 6\omega_7\omega_4^3cs^2 - 3\omega_7^2\omega_4^3cs^4 + 144\omega_7\omega_4^2v_3^2cs^2 + 72\omega_4^2v_3^2 + 3\omega_7^2\omega_4^3v_3^4)\frac{1}{24\omega_7^2\omega_4^3}$

coefficient $C^{(0)}_{\mathrm{D}^4_z v_3}$ **at** $\frac{\partial^4 v_3}{\partial x_3^4}$**:**

$C^{(0),\mathrm{SRT}}_{\mathrm{D}^4_z v_3} = (24 - 26\omega^2cs^2 + 54\omega v_3^2 + \omega^3cs^2 - 48cs^2 - 36\omega - \omega^3 - 36v_3^2 + 14\omega^2 + 2\omega^3v_3^2 + 72\omega cs^2 - 22\omega^2v_3^2)\frac{\rho v_3}{12\omega^3}$

$C^{(0),\mathrm{MRT1}}_{\mathrm{D}^4_z v_3} =$
$(\omega_7^2\omega_4^3cs^2 - 6\omega_4^3 - 24\omega_7\omega_4^2 + 12\omega_4^2 + 2\omega_7^2\omega_4^3v_3^2 + 6\omega_7\omega_4^3 - 12\omega_7^2v_3^2 - 20\omega_7^2\omega_4^2cs^2 - 12\omega_7\omega_4v_3^2 - 24\omega_7^2cs^2 + 12\omega_7\omega_4 - 16\omega_7^2\omega_4^2v_3^2 - 12\omega_7\omega_4cs^2 + 6\omega_4^3cs^2 - 6\omega_7^2\omega_4 + 24\omega_7\omega_4^2cs^2 + 24\omega_7^2\omega_4v_3^2 + 6\omega_4^3v_3^2 + 24\omega_7\omega_4^2v_3^2 + 42\omega_7^2\omega_4cs^2 - 6\omega_7\omega_4^3cs^2 - \omega_7^2\omega_4^3 - 12\omega_4^2cs^2 - 6\omega_7\omega_4^3v_3^2 - 12\omega_4^2v_3^2 + 8\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{MRT2}}_{\mathrm{D}^4_z v_3} =$
$(-24\omega_7^2cs^2 - 6\omega_4^3 - 12\omega_7\omega_4cs^2 - 24\omega_7\omega_4^2 + 12\omega_4^2 + 2\omega_7^2\omega_4^3v_3^2 + 6\omega_7\omega_4^3 - 20\omega_7^2\omega_4^2cs^2 - 12\omega_7^2v_3^2 - 12\omega_7\omega_4v_3^2 + \omega_7^2\omega_4^3cs^2 + 12\omega_7\omega_4 - 16\omega_7^2\omega_4^2v_3^2 - 6\omega_7^2\omega_4 + 24\omega_7^2\omega_4v_3^2 - 6\omega_7\omega_4^3cs^2 + 6\omega_4^3v_3^2 + 24\omega_7\omega_4^2v_3^2 - 12\omega_4^2cs^2 - \omega_7^2\omega_4^3 + 42\omega_7^2\omega_4cs^2 - 6\omega_7\omega_4^3v_3^2 + 6\omega_4^3cs^2 + 24\omega_7\omega_4^2cs^2 - 12\omega_4^2v_3^2 + 8\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM1}}_{\mathrm{D}^4_z v_3} = (-18\omega_4^3 - 24\omega_7\omega_4^3cs^2 - 24\omega_7\omega_4^2 - 60\omega_4^2cs^2 + 36\omega_4^2 + 2\omega_7^2\omega_4^3v_3^2 + 12\omega_7\omega_4^3 + 30\omega_4^3cs^2 - 12\omega_7^2v_3^2 + 72\omega_7\omega_4^2cs^2 + 60\omega_7\omega_4v_3^2 - 12\omega_7\omega_4 + 2\omega_7^2\omega_4^2v_3^2 - 30\omega_7^2\omega_4cs^2 + 6\omega_7^2\omega_4 - 12\omega_7^2\omega_4v_3^2 - 2\omega_7^2\omega_4^2cs^2 + 24\omega_7^2cs^2 + 42\omega_4^3v_3^2 - 12\omega_7\omega_4cs^2 + 24\omega_7\omega_4^2v_3^2 + \omega_7^2\omega_4^3cs^2 - \omega_7^2\omega_4^3 - 24\omega_7\omega_4^3v_3^2 - 84\omega_4^2v_3^2 + 2\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

$C^{(0),\mathrm{CLBM2}}_{\mathrm{D}^4_z v_3} =$
$(-18\omega_4^3 - 24\omega_7\omega_4^2 + \omega_7^2\omega_4^3cs^2 + 36\omega_4^2 + 2\omega_7^2\omega_4^3v_3^2 + 12\omega_7\omega_4^3 + 24\omega_7^2cs^2 - 12\omega_7^2v_3^2 - 12\omega_7\omega_4cs^2 + 60\omega_7\omega_4v_3^2 - 12\omega_7\omega_4 + 2\omega_7^2\omega_4^2v_3^2 - 2\omega_7^2\omega_4^2cs^2 + 6\omega_7^2\omega_4 - 12\omega_7^2\omega_4v_3^2 - 30\omega_7^2\omega_4cs^2 + 30\omega_4^3cs^2 + 42\omega_4^3v_3^2 + 72\omega_7\omega_4^2cs^2 + 24\omega_7\omega_4^2v_3^2 - \omega_7^2\omega_4^3 - 24\omega_7\omega_4^3v_3^2 - 24\omega_7\omega_4^3cs^2 - 84\omega_4^2v_3^2 - 60\omega_4^2cs^2 + 2\omega_7^2\omega_4^2)\frac{\rho v_3}{12\omega_7^2\omega_4^3}$

References

[1] T. Krüger, H. Kusumaatmaja, A. Kuzmin, O. Shardt, G. Silva, E. M. Viggen, The lattice Boltzmann method, Springer International Publishing 10 (978-3) (2017) 4–15.