Bifurcation Equations
Kuznetzov Cancer Model

$$\dot{x} = \lambda y + \frac{\rho x y}{\eta + y} - \mu x y - \delta x + \sigma,$$

$$\dot{y} = \alpha\, y(1 - \beta y)(y - \beta_0) - \mu_1 x y,$$

In[•]:=

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SN = -4 β η^2 λ^5 μ μ1^5 + α^5 (-1 + β β0)^2 (β^2 δ η + μ + β (δ + η μ - ρ))^2
      (δ η + β0^2 μ + β0 (δ + η μ - ρ))^2 (δ^2 + (-η μ + ρ)^2 - 2 δ (η μ + ρ)) +
     α η λ^4 μ1^4 (η μ^2 + 2 β μ (η (9 δ - 4 η μ - 5 ρ) + β0 (4 δ - 9 η μ + 4 ρ)) +
        β^2 η (δ^2 + β0^2 μ^2 - 8 η^2 μ^2 + 2 δ (9 β0 μ + 4 η μ - ρ) - 20 η μ ρ + ρ^2 - 2 β0 μ (4 η μ + 5 ρ))) -
     2 α^2 λ^3 μ1^3 (η μ^2 (β0 (δ - 2 η μ + ρ) - η (-2 δ + η μ + ρ)) +
        β μ (β0 η (14 δ^2 - 25 δ η μ + 13 η^2 μ^2 - 4 δ ρ - 10 ρ^2) + 2 β0^2 (δ^2 - 7 δ η μ + 8 η^2 μ^2 -
              2 δ ρ - 7 η μ ρ + ρ^2) + η^2 (16 δ^2 - 13 δ η μ + η^2 μ^2 - 18 δ ρ - 5 η μ ρ + 4 ρ^2)) +
        β^3 η^2 (-β0^3 μ^2 (-2 δ + η μ + ρ) + β0^2 μ (16 δ^2 - 13 δ η μ + η^2 μ^2 - 18 δ ρ - 5 η μ ρ + 4 ρ^2) +
           η (δ^3 + δ^2 (η μ - 4 ρ) + 2 (η μ - ρ)^3 - δ (4 η^2 μ^2 + η μ ρ - 5 ρ^2)) +
           β0 (2 δ^3 + δ^2 (13 η μ - 5 ρ) + (4 η μ - ρ) (-η μ + ρ)^2 + δ (-18 η^2 μ^2 - 31 η μ ρ + 4 ρ^2))) +
        β^2 η (β0^3 μ^2 (δ - 2 η μ + ρ) + β0^2 μ (14 δ^2 - 25 δ η μ + 13 η^2 μ^2 - 4 δ ρ - 10 ρ^2) +
           β0 (δ^3 + 18 η^3 μ^3 + δ^2 (25 η μ - ρ) + 4 η^2 μ^2 ρ - 23 η μ ρ^2 + ρ^3 - δ (46 η^2 μ^2 + 30 η μ ρ + ρ^2)) +
           η (2 δ^3 + δ^2 (13 η μ - 5 ρ) + (4 η μ - ρ) (-η μ + ρ)^2 + δ (-18 η^2 μ^2 - 31 η μ ρ + 4 ρ^2)))) + α^3 λ^2
      μ1^2 (μ^2 (η^2 (6 δ^2 + (-η μ + ρ)^2 - 6 δ (η μ + ρ)) + β0^2 (δ^2 + 6 η^2 μ^2 - 6 η μ ρ + ρ^2 - 2 δ (3 η μ + ρ)) +
           2 β0 η (3 δ^2 + 3 η^2 μ^2 - η μ ρ - 2 ρ^2 - δ (5 η μ + ρ))) -
        2 β μ (β0^3 μ (5 δ^2 + 14 η^2 μ^2 - 18 η μ ρ + 5 ρ^2 - 2 δ (9 η μ + 5 ρ)) +
           β0 η (-18 δ^3 + (η μ - 8 ρ) (-η μ + ρ)^2 + 4 δ^2 (6 η μ + 7 ρ) + δ (-8 η^2 μ^2 + 9 η μ ρ - 2 ρ^2)) +
           η^2 (-14 δ^3 - (η μ - ρ)^3 + 3 δ^2 (5 η μ + 8 ρ) - δ (η^2 μ^2 - 12 η μ ρ + 11 ρ^2)) - β0^2 (5 δ^3 -
              15 η^3 μ^3 + 18 η^2 μ^2 ρ + 2 η μ ρ^2 - 5 ρ^3 - 15 δ^2 (η μ + ρ) + δ (24 η^2 μ^2 + 13 η μ ρ + 15 ρ^2))) +
        β^4 η^2 (β0^4 μ^2 (6 δ^2 + (-η μ + ρ)^2 - 6 δ (η μ + ρ)) + δ^2 η^2 (δ^2 + (-η μ + ρ)^2 - 2 δ (η μ + ρ)) +
           2 β0^3 μ (14 δ^3 + (η μ - ρ)^3 - 3 δ^2 (5 η μ + 8 ρ) + δ (η^2 μ^2 - 12 η μ ρ + 11 ρ^2)) +
           2 β0 δ η (3 δ^3 + δ^2 (η μ - 11 ρ) + 5 (η μ - ρ)^3 + δ (-9 η^2 μ^2 - 4 η μ ρ + 13 ρ^2)) +
           β0^2 (6 δ^4 + 6 δ^3 (5 η μ - 3 ρ) + 2 δ (9 η μ - 4 ρ) (-η μ + ρ)^2 +
              (-η μ + ρ)^4 + δ^2 (-54 η^2 μ^2 - 72 η μ ρ + 19 ρ^2))) -
        2 β^3 η (β0^4 μ^2 (-3 δ^2 - 3 η^2 μ^2 + η μ ρ + 2 ρ^2 + δ (5 η μ + ρ)) + δ η^2 (-3 δ^3 - 5 (η μ - ρ)^3 +
              δ^2 (-η μ + 11 ρ) + δ (9 η^2 μ^2 + 4 η μ ρ - 13 ρ^2)) + β0 η (-5 δ^4 + 5 (-η μ + ρ)^4 -
              5 δ (-η μ + ρ)^2 (6 η μ + ρ) + δ^3 (-8 η μ + 15 ρ) + δ^2 (39 η^2 μ^2 + 12 η μ ρ - 10 ρ^2)) +
           β0^3 μ (-18 δ^3 + (η μ - 8 ρ) (-η μ + ρ)^2 + 4 δ^2 (6 η μ + 7 ρ) + δ (-8 η^2 μ^2 + 9 η μ ρ - 2 ρ^2)) +
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\begin{aligned}
&\beta 0^2 \left(-3\,\delta^4 + (9\,\eta\,\mu - 2\,\rho)\,(\eta\,\mu - \rho)^3 + \delta^3\,(-24\,\eta\,\mu + 7\,\rho) + \right.\\
&\quad \left. \delta^2\left(58\,\eta^2\,\mu^2 + 50\,\eta\,\mu\,\rho - 3\,\rho^2\right) - \delta\left(39\,\eta^3\,\mu^3 - 53\,\eta^2\,\mu^2\,\rho + 11\,\eta\,\mu\,\rho^2 + 3\,\rho^3\right)\right) + \\
&\beta^2\left(\beta 0^4\,\mu^2\left(\delta^2 + 6\,\eta^2\,\mu^2 - 6\,\eta\,\mu\,\rho + \rho^2 - 2\,\delta\,(3\,\eta\,\mu + \rho)\right) + 2\,\beta 0^3\,\mu\left(5\,\delta^3 - 15\,\eta^3\,\mu^3 + 18\,\eta^2\,\mu^2\,\rho + 2\,\eta\,\mu\right.\right.\\
&\quad \left.\rho^2 - 5\,\rho^3 - 15\,\delta^2\,(\eta\,\mu + \rho) + \delta\left(24\,\eta^2\,\mu^2 + 13\,\eta\,\mu\,\rho + 15\,\rho^2\right)\right) + \eta^2\left(6\,\delta^4 + 6\,\delta^3\,(5\,\eta\,\mu - 3\,\rho) + \right.\\
&\quad \left.\left. 2\,\delta\,(9\,\eta\,\mu - 4\,\rho)\,(-\eta\,\mu + \rho)^2 + (-\eta\,\mu + \rho)^4 + \delta^2\left(-54\,\eta^2\,\mu^2 - 72\,\eta\,\mu\,\rho + 19\,\rho^2\right)\right) + \right.\\
&\quad \beta 0^2\left(\delta^4 + \delta^3\,(30\,\eta\,\mu - 4\,\rho) - (-\eta\,\mu + \rho)^2\left(54\,\eta^2\,\mu^2 + 28\,\eta\,\mu\,\rho - \rho^2\right) + \right.\\
&\quad \delta^2\left(-99\,\eta^2\,\mu^2 - 90\,\eta\,\mu\,\rho + 6\,\rho^2\right) + 2\,\delta\left(58\,\eta^3\,\mu^3 - 21\,\eta^2\,\mu^2\,\rho + 45\,\eta\,\mu\,\rho^2 - 2\,\rho^3\right)\Big) + \\
&\quad 2\,\beta 0\,\eta\left(3\,\delta^4 + \delta^3\,(24\,\eta\,\mu - 7\,\rho) - (9\,\eta\,\mu - 2\,\rho)\,(\eta\,\mu - \rho)^3 + \delta^2\left(-58\,\eta^2\,\mu^2 - 50\,\eta\,\mu\,\rho + 3\,\rho^2\right) + \right.\\
&\quad \left.\left.\delta\left(39\,\eta^3\,\mu^3 - 53\,\eta^2\,\mu^2\,\rho + 11\,\eta\,\mu\,\rho^2 + 3\,\rho^3\right)\right)\right) - 2\,\alpha^4\,\lambda\,\mu 1\\
&\left(\mu^2\left(-\beta 0^3\,\mu\left(\delta^2 - 3\,\delta\,\eta\,\mu + 2\,\eta^2\,\mu^2 - 2\,\delta\,\rho - 3\,\eta\,\mu\,\rho + \rho^2\right) + \delta\,\eta^2\left(2\,\delta^2 + (-\eta\,\mu + \rho)^2 - 3\,\delta\,(\eta\,\mu + \rho)\right) + \right.\right.\\
&\quad \beta 0\,\eta\left(3\,\delta^3 - (\eta\,\mu - \rho)^3 - \delta^2\,(4\,\eta\,\mu + 5\,\rho) + \delta\left(2\,\eta^2\,\mu^2 - 3\,\eta\,\mu\,\rho + \rho^2\right)\right) + \\
&\quad \left.\beta 0^2\left(\delta^3 - (-\eta\,\mu + \rho)^2\,(3\,\eta\,\mu + \rho) - \delta^2\,(2\,\eta\,\mu + 3\,\rho) + \delta\left(4\,\eta^2\,\mu^2 + 3\,\eta\,\mu\,\rho + 3\,\rho^2\right)\right)\right) + \\
&\beta^5\,\beta 0\,\delta\,\eta^2\left(\beta 0^4\,\mu^2\left(2\,\delta^2 + (-\eta\,\mu + \rho)^2 - 3\,\delta\,(\eta\,\mu + \rho)\right) + \delta^2\,\eta^2\left(\delta^2 + (-\eta\,\mu + \rho)^2 - 2\,\delta\,(\eta\,\mu + \rho)\right) + \right.\\
&\quad \beta 0^3\,\mu\left(6\,\delta^3 + 2\,(\eta\,\mu - \rho)^3 - 7\,\delta^2\,(\eta\,\mu + 2\,\rho) - \delta\left(\eta^2\,\mu^2 + 9\,\eta\,\mu\,\rho - 10\,\rho^2\right)\right) + \beta 0^2\left(2\,\delta^4 + 7\,\delta^3\right.\\
&\quad \left.(\eta\,\mu - \rho) + \delta\,(6\,\eta\,\mu - 5\,\rho)\,(-\eta\,\mu + \rho)^2 + (-\eta\,\mu + \rho)^4 + \delta^2\left(-16\,\eta^2\,\mu^2 - 19\,\eta\,\mu\,\rho + 9\,\rho^2\right)\right) + \\
&\quad \left.\beta 0\,\delta\,\eta\left(3\,\delta^3 + 4\,(\eta\,\mu - \rho)^3 - \delta^2\,(\eta\,\mu + 10\,\rho) + \delta\left(-6\,\eta^2\,\mu^2 - 5\,\eta\,\mu\,\rho + 11\,\rho^2\right)\right)\right) + \\
&\beta\,\mu\left(2\,\beta 0^4\,\mu^2\left(2\,\delta^2 - 5\,\delta\,\eta\,\mu + 3\,\eta^2\,\mu^2 - 4\,\delta\,\rho - 5\,\eta\,\mu\,\rho + 2\,\rho^2\right) - \beta 0\,\eta\left(-10\,\delta^4 - 4\,\delta\,(2\,\eta\,\mu - \rho)\right.\right.\\
&\quad \left.(-\eta\,\mu + \rho)^2 + 2\,(-\eta\,\mu + \rho)^4 + \delta^3\,(9\,\eta\,\mu + 28\,\rho) + \delta^2\left(7\,\eta^2\,\mu^2 + 15\,\eta\,\mu\,\rho - 24\,\rho^2\right)\right) + \\
&\quad \delta\,\eta^2\left(6\,\delta^3 + 2\,(\eta\,\mu - \rho)^3 - 7\,\delta^2\,(\eta\,\mu + 2\,\rho) - \delta\left(\eta^2\,\mu^2 + 9\,\eta\,\mu\,\rho - 10\,\rho^2\right)\right) + \\
&\quad \beta 0^3\,\mu\left(2\,\delta^3 - 6\,\delta^2\,\rho + (7\,\eta\,\mu - 2\,\rho)\,(-\eta\,\mu + \rho)^2 + \delta\left(-9\,\eta^2\,\mu^2 - 11\,\eta\,\mu\,\rho + 6\,\rho^2\right)\right) + \\
&\quad \beta 0^2\left(4\,\delta^4 - 16\,\delta^3\,\rho - (\eta\,\mu - \rho)^3\,(\eta\,\mu + 4\,\rho) + \delta^2\left(-10\,\eta^2\,\mu^2 - 11\,\eta\,\mu\,\rho + 24\,\rho^2\right) + \right.\\
&\quad \left.\left.\delta\left(7\,\eta^3\,\mu^3 - 13\,\eta^2\,\mu^2\,\rho + 22\,\eta\,\mu\,\rho^2 - 16\,\rho^3\right)\right)\right) - \\
&\beta^4\,\eta\left(-\delta^3\,\eta^3\left(\delta^2 + (-\eta\,\mu + \rho)^2 - 2\,\delta\,(\eta\,\mu + \rho)\right) + \beta 0^4\,\mu\left(-10\,\delta^4 - 4\,\delta\,(2\,\eta\,\mu - \rho)\,(-\eta\,\mu + \rho)^2 + \right.\right.\\
&\quad \left.2\,(-\eta\,\mu + \rho)^4 + \delta^3\,(9\,\eta\,\mu + 28\,\rho) + \delta^2\left(7\,\eta^2\,\mu^2 + 15\,\eta\,\mu\,\rho - 24\,\rho^2\right)\right) + \\
&\quad \beta 0^5\,\mu^2\left(-3\,\delta^3 + (\eta\,\mu - \rho)^3 + \delta^2\,(4\,\eta\,\mu + 5\,\rho) - \delta\left(2\,\eta^2\,\mu^2 - 3\,\eta\,\mu\,\rho + \rho^2\right)\right) + \\
&\quad 2\,\beta 0\,\delta^2\,\eta^2\left(-\delta^3 + (\eta\,\mu - \rho)^3 + \delta^2\,(4\,\eta\,\mu + \rho) + \delta\left(-4\,\eta^2\,\mu^2 + 3\,\eta\,\mu\,\rho + \rho^2\right)\right) + \beta 0^2\,\delta\,\eta\\
&\quad \left(-4\,\delta^4 + 10\,\delta\,\rho\,(-\eta\,\mu + \rho)^2 - 2\,(-\eta\,\mu + \rho)^4 + 7\,\delta^3\,(\eta\,\mu + 2\,\rho) - \delta^2\left(\eta^2\,\mu^2 - 5\,\eta\,\mu\,\rho + 18\,\rho^2\right)\right) + \\
&\quad \beta 0^3\left(-3\,\delta^5 + (\eta\,\mu - \rho)^5 - \delta\,(\eta\,\mu - \rho)^3\,(8\,\eta\,\mu + \rho) + \delta^4\,(-9\,\eta\,\mu + 11\,\rho) + \right.\\
&\quad \left.\left.\delta^3\left(18\,\eta^2\,\mu^2 + 33\,\eta\,\mu\,\rho - 14\,\rho^2\right) + \delta^2\left(\eta^3\,\mu^3 + 27\,\eta^2\,\mu^2\,\rho - 34\,\eta\,\mu\,\rho^2 + 6\,\rho^3\right)\right)\right) - \\
&\beta^2\left(\beta 0^5\,\mu^3\left(\delta^2 - 3\,\delta\,\eta\,\mu + 2\,\eta^2\,\mu^2 - 2\,\delta\,\rho - 3\,\eta\,\mu\,\rho + \rho^2\right) + \beta 0^4\,\mu^2\right.\\
&\quad \left(-2\,\delta^3 + 6\,\delta^2\,\rho - (7\,\eta\,\mu - 2\,\rho)\,(-\eta\,\mu + \rho)^2 + \delta\left(9\,\eta^2\,\mu^2 + 11\,\eta\,\mu\,\rho - 6\,\rho^2\right)\right) - \\
&\quad \delta\,\eta^2\left(2\,\delta^4 + 7\,\delta^3\,(\eta\,\mu - \rho) + \delta\,(6\,\eta\,\mu - 5\,\rho)\,(-\eta\,\mu + \rho)^2 + (-\eta\,\mu + \rho)^4 + \right.\\
&\quad \left.\delta^2\left(-16\,\eta^2\,\mu^2 - 19\,\eta\,\mu\,\rho + 9\,\rho^2\right)\right) + 2\,\beta 0^3\,\mu\left(\delta^4 - (\eta\,\mu - \rho)^3\,(8\,\eta\,\mu + \rho) - \right.\\
&\quad \left.\delta^3\,(3\,\eta\,\mu + 4\,\rho) + \delta^2\left(\eta^2\,\mu^2 + 11\,\eta\,\mu\,\rho + 6\,\rho^2\right) + \delta\left(9\,\eta^3\,\mu^3 + 8\,\eta^2\,\mu^2\,\rho - 13\,\eta\,\mu\,\rho^2 - 4\,\rho^3\right)\right) + \\
&\quad \beta 0^2\left(-\delta^5 + 5\,\delta^4\,\rho - (6\,\eta\,\mu - \rho)\,(-\eta\,\mu + \rho)^4 - \delta\,(-\eta\,\mu + \rho)^2\left(\eta^2\,\mu^2 - 20\,\eta\,\mu\,\rho + 5\,\rho^2\right) - \right.\\
&\quad \left.2\,\delta^3\left(\eta^2\,\mu^2 - 5\,\eta\,\mu\,\rho + 5\,\rho^2\right) + 2\,\delta^2\left(5\,\eta^3\,\mu^3 + 9\,\eta^2\,\mu^2\,\rho - 15\,\eta\,\mu\,\rho^2 + 5\,\rho^3\right)\right) + \\
&\quad \beta 0\,\eta\left(-3\,\delta^5 + (\eta\,\mu - \rho)^5 - \delta\,(\eta\,\mu - \rho)^3\,(8\,\eta\,\mu + \rho) + \delta^4\,(-9\,\eta\,\mu + 11\,\rho) + \right.\\
&\quad \left.\left.\delta^3\left(18\,\eta^2\,\mu^2 + 33\,\eta\,\mu\,\rho - 14\,\rho^2\right) + \delta^2\left(\eta^3\,\mu^3 + 27\,\eta^2\,\mu^2\,\rho - 34\,\eta\,\mu\,\rho^2 + 6\,\rho^3\right)\right)\right) + \\
&\beta^3\left(\beta 0^5\,\mu^2\left(\delta^3 - (-\eta\,\mu + \rho)^2\,(3\,\eta\,\mu + \rho) - \delta^2\,(2\,\eta\,\mu + 3\,\rho) + \delta\left(4\,\eta^2\,\mu^2 + 3\,\eta\,\mu\,\rho + 3\,\rho^2\right)\right) + \right.\\
&\quad \delta^2\,\eta^3\left(3\,\delta^3 + 4\,(\eta\,\mu - \rho)^3 - \delta^2\,(\eta\,\mu + 10\,\rho) + \delta\left(-6\,\eta^2\,\mu^2 - 5\,\eta\,\mu\,\rho + 11\,\rho^2\right)\right) + \beta 0\,\delta\,\eta^2\\
&\quad \left.\left(4\,\delta^4 - 10\,\delta\,\rho\,(-\eta\,\mu + \rho)^2 + 2\,(-\eta\,\mu + \rho)^4 - 7\,\delta^3\,(\eta\,\mu + 2\,\rho) + \delta^2\left(\eta^2\,\mu^2 - 5\,\eta\,\mu\,\rho + 18\,\rho^2\right)\right) + \right.
\end{aligned}
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$$2\,\beta 0^2\,\eta\,\left(\delta^5+2\,(\eta\,\mu-\rho)^5-9\,\delta\,(\eta\,\mu-\rho)^3\,\rho-\delta^4\,(5\,\eta\,\mu+6\,\rho)+\delta^3\,\left(5\,\eta^2\,\mu^2+3\,\eta\,\mu\,\rho+14\,\rho^2\right)+\delta^2\,\left(-3\,\eta^3\,\mu^3+19\,\eta\,\mu\,\rho^2-16\,\rho^3\right)\right)+\beta 0^3\,\left(\delta^5-5\,\delta^4\,\rho+(6\,\eta\,\mu-\rho)\,(-\eta\,\mu+\rho)^4+\delta\,(-\eta\,\mu+\rho)^2\,\left(\eta^2\,\mu^2-20\,\eta\,\mu\,\rho+5\,\rho^2\right)+2\,\delta^3\,\left(\eta^2\,\mu^2-5\,\eta\,\mu\,\rho+5\,\rho^2\right)-2\,\delta^2\,\left(5\,\eta^3\,\mu^3+9\,\eta^2\,\mu^2\,\rho-15\,\eta\,\mu\,\rho^2+5\,\rho^3\right)\right)-\beta 0^4\,\mu\,\left(-4\,\delta^4+16\,\delta^3\,\rho+(\eta\,\mu-\rho)^3\,(\eta\,\mu+4\,\rho)+\delta^2\,\left(10\,\eta^2\,\mu^2+11\,\eta\,\mu\,\rho-24\,\rho^2\right)+\delta\,\left(-7\,\eta^3\,\mu^3+13\,\eta^2\,\mu^2\,\rho-22\,\eta\,\mu\,\rho^2+16\,\rho^3\right)\right)\Big)\Big);$$

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$$-\lambda^2\,\mu^3\,\mu 1^2+\alpha^6\,\beta 0\,(-1+\beta\,\beta 0)^2\,(\beta 0+\eta)\,(1+\beta\,\eta)\,((1+\beta\,(\beta 0+2\,\eta))\,(2\,\beta\,\delta+\mu+\beta\,\beta 0\,\mu)-2\,\beta\,(1+\beta\,\beta 0)\,\rho)-2\,\alpha\,\beta\,\lambda^2\,\mu 1^2\,(-3\,\delta\,\mu+2\,\lambda\,\mu 1+3\,\mu\,\rho)-\alpha^5\,\Big(\delta\,(\beta 0+\eta)\,\mu-\beta 0\,\mu\,\rho+\beta^5\,\beta 0^2\,\delta\,\eta\,(\beta 0+\eta)\,((\beta 0+2\,\eta)\,(2\,\delta+\beta 0\,\mu)-2\,\beta 0\,\rho)+\beta\,\left((\beta 0+\eta)\,\left(2\,\delta^2+3\,\delta\,\eta\,\mu+4\,\beta 0\,\lambda\,\mu 1\right)-2\,(2\,\beta 0\,\delta+\delta\,\eta+\beta 0\,\eta\,\mu)\,\rho+2\,\beta 0\,\rho^2\right)+2\,\beta^2\,\left(-\left((\beta 0+\eta)\,\left(\delta\,\left(\beta 0^2\,\mu+\beta 0\,(\delta+\eta\,\mu)-\eta\,(3\,\delta+\eta\,\mu)\right)-2\,\beta 0\,(2\,\beta 0+3\,\eta)\,\lambda\,\mu 1\right)\right)+\left(\delta\,\left(2\,\beta 0^2-2\,\beta 0\,\eta-\eta^2\right)+\beta 0^2\,(\beta 0+\eta)\,\mu\right)\rho-\beta 0^2\,\rho^2\right)+2\,\beta^3\,\left((\beta 0+\eta)\,\left(\delta\,\left(-\delta\,\left(\beta 0^2+5\,\beta 0\,\eta-2\,\eta^2\right)-\beta 0\,\eta\,(2\,\beta 0+\eta)\,\mu\right)+2\,\beta 0\,\left(\beta 0^2+4\,\beta 0\,\eta+2\,\eta^2\right)\,\lambda\,\mu 1\right)+\beta 0\,\left(6\,\beta 0\,\delta\,\eta+\delta\,\eta^2+\beta 0^2\,(2\,\delta+\eta\,\mu)\right)\rho-\beta 0^3\,\rho^2\right)+\beta^4\,\beta 0\,\left((\beta 0+\eta)\,\left(\delta\,\left(-8\,\delta\,\eta^2+\beta 0^3\,\mu+2\,\beta 0\,\eta\,(\delta-\eta\,\mu)+2\,\beta 0^2\,(\delta+\eta\,\mu)\right)+4\,\beta 0\,\eta\,(\beta 0+2\,\eta)\,\lambda\,\mu 1\right)-\beta 0\,\left(4\,\beta 0\,\delta\,\eta-2\,\delta\,\eta^2+\beta 0^3\,\mu+2\,\beta 0^2\,(2\,\delta+\eta\,\mu)\right)\rho+2\,\beta 0^3\,\rho^2\right)\Big)-\alpha^3\,\lambda\,\mu 1\,\Big(\mu\,(\delta-\rho)+\beta\,\left(2\,\delta^2+4\,(2\,\beta 0+\eta)\,\lambda\,\mu 1+(7\,\beta 0-2\,\eta)\,\mu\,\rho+2\,\rho^2-\delta\,(7\,\beta 0\,\mu+6\,\eta\,\mu+4\,\rho)\right)+\beta^2\,\left(6\,\eta^2\,(-3\,\delta\,\mu+2\,\lambda\,\mu 1)+\beta 0^2\,(-7\,\delta\,\mu+8\,\lambda\,\mu 1+7\,\mu\,\rho)-4\,\beta 0\,\left(\delta^2+6\,\delta\,\eta\,\mu-4\,\eta\,\lambda\,\mu 1-2\,\delta\,\rho-\eta\,\mu\,\rho+\rho^2\right)\right)+\beta^3\,\left(6\,\beta 0\,\eta^2\,(-3\,\delta\,\mu+2\,\lambda\,\mu 1)+\beta 0^3\,\mu\,(\delta-\rho)+4\,\eta^2\,(-3\,\delta\,\eta\,\mu+2\,\eta\,\lambda\,\mu 1+3\,\delta\,\rho)+2\,\beta 0^2\,\left(\delta^2-3\,\delta\,\eta\,\mu+2\,\eta\,\lambda\,\mu 1-2\,\delta\,\rho-\eta\,\mu\,\rho+\rho^2\right)\right)\Big)-\alpha^2\,\lambda\,\mu 1\,\Big(\mu\,(-\lambda\,\mu 1+\mu\,(\delta+2\,\beta 0\,\mu+\eta\,\mu-\rho))+\beta\,\left(3\,\delta^2\,\mu+4\,\beta 0\,\delta\,\mu^2+2\,\beta 0^2\,\mu^3+4\,\beta 0\,\eta\,\mu^3+3\,\eta^2\,\mu^3-6\,\delta\,\lambda\,\mu 1+2\,\beta 0\,\lambda\,\mu\,\mu 1-2\,\mu\,(3\,\delta+2\,\beta 0\,\mu+3\,\eta\,\mu)\,\rho+6\,\lambda\,\mu 1\,\rho+3\,\mu\,\rho^2\right)+\beta^2\,\left(2\,\delta^3+\eta\,(\beta 0+\eta)\,(\beta 0+2\,\eta)\,\mu^3-\beta 0^2\,\lambda\,\mu\,\mu 1+3\,\delta^2\,(\beta 0\,\mu-2\,\rho)-\left(\beta 0^2+6\,\beta 0\,\eta+6\,\eta^2\right)\,\mu^2\,\rho+6\,(\beta 0+2\,\eta)\,\lambda\,\mu 1\,\rho+3\,(\beta 0+2\,\eta)\,\mu\,\rho^2-2\,\rho^3+\delta\,\left(\beta 0\,\left(\beta 0\,\mu^2-6\,\lambda\,\mu 1\right)-6\,(\beta 0+\eta)\,\mu\,\rho+6\,\rho^2\right)\right)\Big)+\alpha^4\,\Big(\mu\,\left(\beta 0^2\,\mu^2-2\,\beta 0\,\lambda\,\mu 1+\eta\,(\delta\,\mu-\lambda\,\mu 1)+\beta 0\,\mu\,(\delta+\eta\,\mu-\rho)\right)+\beta^4\,\eta\,\left((\beta 0+\eta)\,(\beta 0+2\,\eta)\,(\delta\,(\delta+\beta 0\,\mu)\,(2\,\delta+\beta 0\,\mu)-\beta 0\,\lambda\,(6\,\delta+\beta 0\,\mu)\,\mu 1)-\beta 0\,\left(\delta\,\left(6\,\delta\,\eta+3\,\beta 0^2\,\mu+4\,\beta 0\,(\delta+\eta\,\mu)\right)-2\,\beta 0\,(\beta 0+\eta)\,\lambda\,\mu 1\right)\rho+2\,\beta 0^2\,\delta\,\rho^2\right)+\beta\,\left(2\,\beta 0^3\,\mu^3+\beta 0^2\,\mu\,(2\,\lambda\,\mu 1+5\,\mu\,(\delta+\eta\,\mu-\rho))+\eta\,\left(3\,\delta^2\,\mu+\lambda\,\mu 1\,(-3\,\eta\,\mu+2\,\rho)+3\,\delta\,\left(\eta\,\mu^2-2\,\lambda\,\mu 1-\mu\,\rho\right)\right)+\beta 0\,\left(3\,\delta^2\,\mu+3\,\eta^2\,\mu^3+\delta\,\left(8\,\eta\,\mu^2-8\,\lambda\,\mu 1-6\,\mu\,\rho\right)-2\,\eta\,\mu\,(\lambda\,\mu 1+3\,\mu\,\rho)+\rho\,(8\,\lambda\,\mu 1+3\,\mu\,\rho)\right)\right)+\beta^2\,\left(\beta 0^4\,\mu^3+\beta 0^3\,\mu\,(2\,\lambda\,\mu 1+5\,\mu\,(\delta+\eta\,\mu-\rho))+2\,\beta 0^2\,\left(3\,\delta^2\,\mu+3\,\eta^2\,\mu^3+\delta\,\left(9\,\eta\,\mu^2-4\,\lambda\,\mu 1-6\,\mu\,\rho\right)+3\,\eta\,\mu\,(\lambda\,\mu 1-2\,\mu\,\rho)+\rho\,(4\,\lambda\,\mu 1+3\,\mu\,\rho)\right)+\eta\,\left(2\,\delta^3+\delta^2\,(9\,\eta\,\mu-4\,\rho)+2\,\eta\,\lambda\,\mu 1\,(-\eta\,\mu+\rho)+2\,\delta\,\left(\eta^2\,\mu^2-9\,\eta\,\lambda\,\mu 1-2\,\eta\,\mu\,\rho+\rho^2\right)\right)+\beta 0\,\left(2\,\delta^3+2\,\eta^3\,\mu^3+3\,\delta^2\,(5\,\eta\,\mu-2\,\rho)-2\,\rho^3+3\,\eta^2\,\mu\,(\lambda\,\mu 1-2\,\mu\,\rho)+2\,\eta\,\rho\,(5\,\lambda\,\mu 1+3\,\mu\,\rho)+3\,\delta\,\left(5\,\eta\,\left(\eta\,\mu^2-2\,\lambda\,\mu 1\right)-7\,\eta\,\mu\,\rho+2\,\rho^2\right)\right)\right)+\beta^3\,\left(\beta 0^4\,\mu\,(-2\,\lambda\,\mu 1+\mu\,(\delta+\eta\,\mu-\rho))+6\,\delta\,\eta^2\,\left(\delta^2+\delta\,\eta\,\mu-2\,\eta\,\lambda\,\mu 1-\delta\,\rho\right)+\beta 0^3\,\left(3\,\delta^2\,\mu+3\,\eta^2\,\mu^3+\delta\,\left(8\,\eta\,\mu^2-8\,\lambda\,\mu 1-6\,\mu\,\rho\right)-2\,\eta\,\mu\,(\lambda\,\mu 1+3\,\mu\,\rho)+\rho\,(8\,\lambda\,\mu 1+3\,\mu\,\rho)\right)+\beta 0^2\,\left(2\,\delta^3+2\,\eta^3\,\mu^3+3\,\delta^2\,(5\,\eta\,\mu-2\,\rho)-2\,\rho^3+3\,\eta^2\,\mu\,(\lambda\,\mu 1-2\,\mu\,\rho)+2\,\eta\,\rho\,(5\,\lambda\,\mu 1+3\,\mu\,\rho)+3\,\delta\,\left(5\,\eta\,\left(\eta\,\mu^2-2\,\lambda\,\mu 1\right)-7\,\eta\,\mu\,\rho+2\,\rho^2\right)\right)+2\,\beta 0\,\eta\,\left(4\,\delta^3+\delta^2\,(9\,\eta\,\mu-8\,\rho)+2\,\eta\,\lambda\,\mu 1\,(\eta\,\mu-\rho)+2\,\delta\,\left(2\,\eta^2\,\mu^2-9\,\eta\,\lambda\,\mu 1-4\,\eta\,\mu\,\rho+2\,\rho^2\right)\right)\Big)\Big);$$

In[•]:= **BT** =

$$-3\,\eta\,\lambda^2\,\mu^3\,\mu 1^2\,\rho+\alpha^6\,(-1+\beta\,\beta 0)^2\,\eta\,(\beta 0+\eta)\,(1+\beta\,\eta)\,\left((1+\beta\,(\beta 0+2\,\eta))^2\,\mu-4\,\beta^2\,\eta\,\rho\right)\,(\delta\,(\eta+\beta\,\beta 0\,\eta)+\beta 0\,(-\eta\,\mu+\rho))+$$

$$
\begin{aligned}
&\alpha\,\lambda\,\mu 1\,\Big(\beta 0\,\mu^2\,\Big(3\,\beta\,\eta^3\,\mu^3+3\,\delta^2\,(\mu+\beta\,\eta\,\mu)+3\,\mu\,\rho^2-6\,\delta\,(1+\beta\,\eta)\,\mu\,(\eta\,\mu+\rho)+3\,\eta^2\,\mu^2\,(\mu-2\,\beta\,\rho)+\\
&\quad\eta\,\rho\,\left(-6\,\mu^2+2\,\beta\,\lambda\,\mu 1+3\,\beta\,\mu\,\rho\right)\Big)+\eta\,\Big(3\,\beta\,\eta^3\,\mu^5+3\,\eta^2\,\mu^4\,(\mu-3\,\beta\,\rho)+3\,\delta^2\,\mu^2\,(\mu+\beta\,\eta\,\mu-\beta\,\rho)+\\
&\quad3\,\eta\,\mu^3\,\rho\,(-2\,\mu+3\,\beta\,\rho)+\rho\,\left(-4\,\beta\,\lambda^2\,\mu 1^2+2\,\lambda\,\mu\,\mu 1\,(\mu-8\,\beta\,\rho)+3\,\mu^2\,\rho\,(\mu-\beta\,\rho)\right)-\\
&\quad2\,\delta\,\left(3\,\eta\,\mu^4+3\,\beta\,\eta^2\,\mu^4+\mu\,\rho\,\left(3\,\mu^2-8\,\beta\,\lambda\,\mu 1-3\,\beta\,\mu\,\rho\right)\right)\Big)\Big)+\\
&\alpha^5\,\eta\,(\beta 0+\eta)\,(1+\beta\,\eta)\,\left(-\mu\,\left(-2\,\delta^2+\eta\,\lambda\,\mu 1+2\,\delta\,(\beta 0\,\mu-\eta\,\mu+\rho)\right)+\right.\\
&\quad2\,\beta\,\left(5\,\delta^2\,\eta\,\mu+\delta\,\left(\beta 0^2\,\mu^2+2\,\beta 0\,\mu\,(-\eta\,\mu+\rho)+2\,\eta\,\left(3\,\eta\,\mu^2-\lambda\,\mu 1-3\,\mu\,\rho\right)\right)-\right.\\
&\quad\left.2\,\left(\eta^2\,\lambda\,\mu\,\mu 1+2\,\beta 0^2\,\mu^2\,(\eta\,\mu-\rho)+\beta 0\,(\eta\,\mu-\rho)\,\left(\eta\,\mu^2-\lambda\,\mu 1-\mu\,\rho\right)\right)\right)+\\
&\quad\beta^4\,\left(32\,\delta^3\,\eta^3+8\,\beta 0\,\delta\,\eta^2\,\left(4\,\delta^2+3\,\delta\,\eta\,\mu-2\,\eta\,\lambda\,\mu 1-3\,\delta\,\rho\right)+\beta 0^4\,\mu\,\left(2\,\delta^2+2\,\delta\,\eta\,\mu-\eta\,\lambda\,\mu 1-2\,\delta\,\rho\right)+\right.\\
&\quad2\,\beta 0^3\,\eta\,\left(5\,\delta^2\,\mu-2\,\eta\,\lambda\,\mu\,\mu 1+\delta\,\left(6\,\eta\,\mu^2-2\,\lambda\,\mu 1-6\,\mu\,\rho\right)\right)+\\
&\quad\left.4\,\beta 0^2\,\eta\,\left(2\,\delta^3+6\,\delta^2\,(\eta\,\mu-\rho)+\eta\,\lambda\,\mu 1\,(-\eta\,\mu+\rho)+4\,\delta\,\left(\eta^2\,\mu^2-\eta\,\lambda\,\mu 1-2\,\eta\,\mu\,\rho+\rho^2\right)\right)\right)+\\
&\quad2\,\beta^2\,\left(4\,\delta^3\,\eta+4\,\beta 0^3\,\mu^2\,(-\eta\,\mu+\rho)+2\,\eta^2\,\lambda\,\mu 1\,(-\eta\,\mu+\rho)+\delta^2\,\left(-2\,\beta 0^2\,\mu+12\,\eta\,(\eta\,\mu-\rho)+\right.\right.\\
&\quad\left.\beta 0\,(7\,\eta\,\mu+4\,\rho)\right)-2\,\beta 0\,\left(2\,\eta^3\,\mu^3-2\,\rho^3+2\,\eta\,\rho\,(2\,\lambda\,\mu 1+3\,\mu\,\rho)-\eta^2\,\mu\,(5\,\lambda\,\mu 1+6\,\mu\,\rho)\right)+\\
&\quad\beta 0^2\,\left(-12\,\eta^2\,\mu^3-4\,\rho\,(\lambda\,\mu 1+3\,\mu\,\rho)+\eta\,\mu\,(5\,\lambda\,\mu 1+24\,\mu\,\rho)\right)+\delta\,\left(\beta 0^3\,\mu^2+2\,\beta 0^2\,\mu\,(\eta\,\mu+7\,\rho)+\right.\\
&\quad\left.\left.8\,\eta\,\left(\eta^2\,\mu^2-\eta\,\lambda\,\mu 1-2\,\eta\,\mu\,\rho+\rho^2\right)-2\,\beta 0\,\left(3\,\eta^2\,\mu^2+3\,\eta\,\lambda\,\mu 1-7\,\eta\,\mu\,\rho+4\,\rho^2\right)\right)\right)-2\,\beta^3\,\\
&\quad\left(\beta 0^4\,\delta\,\mu^2+4\,\delta\,\eta^2\,\left(-4\,\delta^2-3\,\delta\,\eta\,\mu+2\,\eta\,\lambda\,\mu 1+3\,\delta\,\rho\right)+2\,\beta 0^3\,(\eta\,\mu-\rho)\,\left(\delta\,\mu+\eta\,\mu^2-\lambda\,\mu 1-\mu\,\rho\right)+\right.\\
&\quad4\,\beta 0\,\eta\,\left(-2\,\delta^3+3\,\eta\,\lambda\,\mu 1\,(-\eta\,\mu+\rho)-2\,\delta^2\,(3\,\eta\,\mu+\rho)+4\,\delta\,\left(\eta^2\,\mu^2+\eta\,\lambda\,\mu 1-2\,\eta\,\mu\,\rho+\rho^2\right)\right)+\\
&\quad\beta 0^2\,\left(4\,\eta^3\,\mu^3-4\,\rho^3-\delta^2\,(7\,\eta\,\mu+4\,\rho)+4\,\eta\,\rho\,(2\,\lambda\,\mu 1+3\,\mu\,\rho)-\right.\\
&\quad\left.\left.2\,\eta^2\,\mu\,(5\,\lambda\,\mu 1+6\,\mu\,\rho)+2\,\delta\,\left(3\,\eta^2\,\mu^2+3\,\eta\,\lambda\,\mu 1-7\,\eta\,\mu\,\rho+4\,\rho^2\right)\right)\right)\Big)+\\
&\alpha^2\,\left(\mu\,\left(3\,\beta 0^2\,\mu^3\,\left(\delta^2+(-\eta\,\mu+\rho)^2-2\,\delta\,(\eta\,\mu+\rho)\right)+\eta\,\left(3\,\delta^3\,\mu^2-2\,\delta^2\,\mu\,\left(3\,\eta\,\mu^2+\lambda\,\mu 1+3\,\mu\,\rho\right)+\right.\right.\\
&\quad\delta\,\mu\,\left(3\,\eta^2\,\mu^3+2\,\eta\,\mu\,(5\,\lambda\,\mu 1-3\,\mu\,\rho)+\rho\,(-2\,\lambda\,\mu 1+3\,\mu\,\rho)\right)+\\
&\quad\left.\lambda\,\mu 1\,\left(-8\,\eta^2\,\mu^3+4\,\eta\,\mu^2\,\rho+\rho\,(\lambda\,\mu 1+4\,\mu\,\rho)\right)\right)+\\
&\quad\beta 0\,\mu\,\left(3\,\delta^3\,\mu+3\,\eta^3\,\mu^4-\rho^2\,(2\,\lambda\,\mu 1+3\,\mu\,\rho)-\delta^2\,\left(3\,\eta\,\mu^2+2\,\lambda\,\mu 1+9\,\mu\,\rho\right)+\eta\,\mu\,\rho\,(4\,\lambda\,\mu 1+9\,\mu\,\rho)-\right.\\
&\quad\left.\left.\eta^2\,\mu^2\,(8\,\lambda\,\mu 1+9\,\mu\,\rho)+\delta\,\left(-3\,\eta^2\,\mu^3+2\,\eta\,\mu\,(5\,\lambda\,\mu 1-3\,\mu\,\rho)+\rho\,(4\,\lambda\,\mu 1+9\,\mu\,\rho)\right)\right)\right)-\\
&\quad\beta^2\,\eta\,\left(-3\,\delta^4\,\eta\,\mu^2+4\,\delta\,\lambda\,\mu 1\,\left(\eta^3\,\mu^3-3\,\eta\,\mu\,\rho^2+6\,\rho^3+2\,\eta^2\,\mu\,(\lambda\,\mu 1-2\,\mu\,\rho)\right)+\right.\\
&\quad2\,\delta^3\,\left(3\,\eta^2\,\mu^3+4\,\lambda\,\mu 1\,\rho+\eta\,\mu\,(8\,\lambda\,\mu 1+3\,\mu\,\rho)\right)+\\
&\quad4\,\lambda\,\mu 1\,\left(3\,\eta^4\,\mu^4-2\,\rho^4+3\,\eta^2\,\mu\,\rho\,(\lambda\,\mu 1+\mu\,\rho)+\eta\,\rho^2\,(4\,\lambda\,\mu 1+3\,\mu\,\rho)-\eta^3\,\mu^2\,(\lambda\,\mu 1+7\,\mu\,\rho)\right)-\\
&\quad\delta^2\,\left(3\,\eta^3\,\mu^4+24\,\lambda\,\mu 1\,\rho^2+2\,\eta^2\,\mu^2\,(16\,\lambda\,\mu 1-3\,\mu\,\rho)+\eta\,\left(4\,\lambda^2\,\mu 1^2+16\,\lambda\,\mu\,\mu 1\,\rho+3\,\mu^2\,\rho^2\right)\right)-\\
&\quad\beta 0^2\,\mu\,\left(3\,\delta^3\,\mu^2-2\,\delta^2\,\mu\,\left(3\,\eta\,\mu^2+\lambda\,\mu 1+3\,\mu\,\rho\right)+\right.\\
&\quad\delta\,\mu\,\left(3\,\eta^2\,\mu^3+2\,\eta\,\mu\,(5\,\lambda\,\mu 1-3\,\mu\,\rho)+\rho\,(-2\,\lambda\,\mu 1+3\,\mu\,\rho)\right)+\lambda\,\mu 1\,\\
&\quad\left.\left(-8\,\eta^2\,\mu^3+4\,\eta\,\mu^2\,\rho+\rho\,(\lambda\,\mu 1+4\,\mu\,\rho)\right)\right)+\beta 0\,\left(-3\,\delta^4\,\mu^2+\delta^3\,\mu\,\left(3\,\eta\,\mu^2+16\,\lambda\,\mu 1+9\,\mu\,\rho\right)+\right.\\
&\quad\delta^2\,\left(3\,\eta^2\,\mu^4-4\,\lambda^2\,\mu 1^2-26\,\lambda\,\mu\,\mu 1\,\rho-9\,\mu^2\,\rho^2+6\,\eta\,\mu^2\,(-5\,\lambda\,\mu 1+\mu\,\rho)\right)+\\
&\quad2\,\lambda\,\mu 1\,\left(10\,\eta^3\,\mu^4+4\,\eta\,\mu\,\rho\,(\lambda\,\mu 1+\mu\,\rho)+\rho^2\,(2\,\lambda\,\mu 1+3\,\mu\,\rho)-\eta^2\,\mu^2\,(2\,\lambda\,\mu 1+17\,\mu\,\rho)\right)+\\
&\quad\left.\delta\,\mu\,\left(-3\,\eta^3\,\mu^4+\rho^2\,(4\,\lambda\,\mu 1+3\,\mu\,\rho)+\eta^2\,\left(-6\,\lambda\,\mu^2\,\mu 1+9\,\mu^3\,\rho\right)+\eta\,\left(8\,\lambda^2\,\mu 1^2-9\,\mu^2\,\rho^2\right)\right)\right)\Big)+\\
&\quad\beta\,\left(\beta 0^2\,\mu^2\,\left(3\,\delta^3\,\mu+3\,\eta^3\,\mu^4-\rho^2\,(2\,\lambda\,\mu 1+3\,\mu\,\rho)-\delta^2\,\left(3\,\eta\,\mu^2+2\,\lambda\,\mu 1+9\,\mu\,\rho\right)+\right.\right.\\
&\quad\eta\,\mu\,\rho\,(4\,\lambda\,\mu 1+9\,\mu\,\rho)-\eta^2\,\mu^2\,(8\,\lambda\,\mu 1+9\,\mu\,\rho)+\\
&\quad\left.\delta\,\left(-3\,\eta^2\,\mu^3+2\,\eta\,\mu\,(5\,\lambda\,\mu 1-3\,\mu\,\rho)+\rho\,(4\,\lambda\,\mu 1+9\,\mu\,\rho)\right)\right)+\beta 0\,\left(3\,\delta^4\,\mu^2+3\,\eta^4\,\mu^6-\right.\\
&\quad4\,\delta^3\,\mu\,(4\,\lambda\,\mu 1+3\,\mu\,\rho)-4\,\eta^3\,\mu^4\,(7\,\lambda\,\mu 1+3\,\mu\,\rho)+\rho^2\,\left(4\,\lambda^2\,\mu 1^2+16\,\lambda\,\mu\,\mu 1\,\rho+3\,\mu^2\,\rho^2\right)-\\
&\quad2\,\eta\,\mu\,\rho\,\left(5\,\lambda^2\,\mu 1^2+12\,\lambda\,\mu\,\mu 1\,\rho+6\,\mu^2\,\rho^2\right)+2\,\eta^2\,\mu^2\,\left(2\,\lambda^2\,\mu 1^2+18\,\lambda\,\mu\,\mu 1\,\rho+9\,\mu^2\,\rho^2\right)+\\
&\quad\delta^2\,\left(-6\,\eta^2\,\mu^4+4\,\lambda^2\,\mu 1^2+48\,\lambda\,\mu\,\mu 1\,\rho+18\,\mu^2\,\rho^2+4\,\eta\,\mu^2\,(7\,\lambda\,\mu 1-3\,\mu\,\rho)\right)+\\
&\quad4\,\delta\,\left(\eta^2\,\mu^3\,(4\,\lambda\,\mu 1-3\,\mu\,\rho)-\rho\,\left(2\,\lambda^2\,\mu 1^2+12\,\lambda\,\mu\,\mu 1\,\rho+3\,\mu^2\,\rho^2\right)+\eta\,\mu\,\right.\\
&\quad\left.\left.\left(-2\,\lambda^2\,\mu 1^2-\lambda\,\mu\,\mu 1\,\rho+6\,\mu^2\,\rho^2\right)\right)\right)+\eta\,\left(3\,\delta^4\,\mu^2-\delta^3\,\mu\,\left(3\,\eta\,\mu^2+16\,\lambda\,\mu 1+9\,\mu\,\rho\right)+\right.
\end{aligned}
$$

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\begin{aligned}
&\delta^2 \left(-3\eta^2\mu^4 + 4\lambda^2\mu 1^2 + 26\lambda\mu\mu 1\rho + 9\mu^2\rho^2 - 6\eta\mu^2(-5\lambda\mu 1 + \mu\rho)\right) + \\
&2\lambda\mu 1\left(-10\eta^3\mu^4 - 4\eta\mu\rho(\lambda\mu 1 + \mu\rho) - \rho^2(2\lambda\mu 1 + 3\mu\rho) + \eta^2\mu^2(2\lambda\mu 1 + 17\mu\rho)\right) + \\
&\delta\mu\left(3\eta^3\mu^4 + 3\eta^2\mu^2(2\lambda\mu 1 - 3\mu\rho) - \rho^2(4\lambda\mu 1 + 3\mu\rho) + \eta\left(-8\lambda^2\mu 1^2 + 9\mu^2\rho^2\right)\right)\Big)\Big) + \\
\alpha^3\Big(&-\mu\left(2\beta 0^2\mu^2\left(\delta^2 - 5\delta\eta\mu + 4\eta^2\mu^2 - 2\delta\rho - 5\eta\mu\rho + \rho^2\right) + \eta\left(-4\delta^3\mu + \delta^2(2\eta\mu^2 + \lambda\mu 1 + 8\mu\rho) + \right.\right. \\
&2\delta\mu\left(\eta^2\mu^2 + \eta\lambda\mu 1 + \eta\mu\rho - 2\rho^2\right) - \lambda\mu 1\left(6\eta^2\mu^2 + 2\eta\mu\rho + \rho^2\right)\Big) + \\
&\beta 0\left(-4\delta^3\mu + 8\eta^3\mu^4 - 2\eta\lambda\mu\mu 1\rho - 6\eta^2\mu^2(\lambda\mu 1 + 2\mu\rho) + \rho^2(\lambda\mu 1 + 4\mu\rho) + \right. \\
&\delta^2\left(4\eta\mu^2 + \lambda\mu 1 + 12\mu\rho\right) - 2\delta\left(4\eta^2\mu^3 + \eta\mu(-\lambda\mu 1 + 2\mu\rho) + \rho(\lambda\mu 1 + 6\mu\rho)\right)\Big)\Big) + \\
\beta^3\eta\Big(&\beta 0^3\mu\left(4\delta^3\mu - \delta^2\left(2\eta\mu^2 + \lambda\mu 1 + 8\mu\rho\right) - 2\delta\mu\left(\eta^2\mu^2 + \eta\lambda\mu 1 + \eta\mu\rho - 2\rho^2\right) + \right. \\
&\lambda\mu 1\left(6\eta^2\mu^2 + 2\eta\mu\rho + \rho^2\right)\Big) + \\
&4\eta\left(2\delta^5 - 2\delta^4(2\eta\mu + 3\rho) + 4\delta\eta\lambda\mu 1\left(4\eta^2\mu^2 + \eta\lambda\mu 1 - 3\eta\mu\rho - \rho^2\right) + \right. \\
&\eta\lambda\mu 1(\eta\mu - \rho)\left(3\eta^2\mu^2 - 4\eta\lambda\mu 1 - 6\eta\mu\rho + 3\rho^2\right) + \delta^3\left(5\eta^2\mu^2 + 3\eta\mu\rho + 6\rho^2\right) + \\
&\delta^2\left(-3\eta^3\mu^3 - 2\rho^3 + 4\eta^2\mu(-4\lambda\mu 1 + \mu\rho) + \eta\rho(4\lambda\mu 1 + \mu\rho)\right)\Big) + \\
&\beta 0^2\left(6\delta^4\mu - 2\delta^3\left(\eta\mu^2 + 2\lambda\mu 1 + 9\mu\rho\right) + \eta\lambda\mu\mu 1\left(26\eta^2\mu^2 - 8\eta\lambda\mu 1 - 29\eta\mu\rho + 3\rho^2\right) + \right. \\
&\delta^2\left(10\eta^2\mu^3 + \eta\mu(-25\lambda\mu 1 + 4\mu\rho) + 2\rho(4\lambda\mu 1 + 9\mu\rho)\right) - 2\delta\left(7\eta^3\mu^4 + \rho^2\right. \\
&\left.\left.(2\lambda\mu 1 + 3\mu\rho) - \eta^2\mu^2(9\lambda\mu 1 + 11\mu\rho) + \eta\left(-4\lambda^2\mu 1^2 - 12\lambda\mu\mu 1\rho + \mu^2\rho^2\right)\right)\Big) + \right. \\
&2\beta 0\left(4\delta^5 - \delta^4(5\eta\mu + 16\rho) + \delta^3\left(7\eta^2\mu^2 - 2\eta\lambda\mu 1 + 4\eta\mu\rho + 24\rho^2\right) + \right. \\
&\delta^2\left(-16\rho^3 + \eta\rho(10\lambda\mu 1 + 7\mu\rho) + \eta^2\mu(-44\lambda\mu 1 + 9\mu\rho)\right) + \\
&2\eta\lambda\mu 1\left(8\eta^3\mu^3 - \rho^3 + 2\eta\rho(2\lambda\mu 1 + 5\mu\rho) - \eta^2\mu(6\lambda\mu 1 + 17\mu\rho)\right) - 2\delta\left(3\eta^4\mu^4 - 2\rho^4 + \right. \\
&\left.\left.3\eta\rho^2(\lambda\mu 1 + \mu\rho) - 7\eta^3\mu^2(3\lambda\mu 1 + \mu\rho) + \eta^2\left(-6\lambda^2\mu 1^2 + 5\lambda\mu\mu 1\rho + 3\mu^2\rho^2\right)\right)\Big)\Big) + \\
\beta\Big(&-2\beta 0^3\mu^3\left(\delta^2 - 5\delta\eta\mu + 4\eta^2\mu^2 - 2\delta\rho - 5\eta\mu\rho + \rho^2\right) + 2\beta 0^2\mu\left(-4\delta^3\mu - 14\eta^3\mu^4 + \right. \\
&3\delta^2\left(4\eta\mu^2 + \lambda\mu 1 + 4\mu\rho\right) + \rho^2(3\lambda\mu 1 + 4\mu\rho) - 2\eta\mu\rho(3\lambda\mu 1 + 11\mu\rho) + \\
&2\eta^2\mu^2(5\lambda\mu 1 + 16\mu\rho) + 2\delta\left(3\eta^2\mu^3 + 5\eta\mu(-\lambda\mu 1 + \mu\rho) - 3\rho(\lambda\mu 1 + 2\mu\rho)\right)\Big) + \\
&\eta\left(6\delta^4\mu - 2\delta^3\left(\eta\mu^2 + 2\lambda\mu 1 + 9\mu\rho\right) + \eta\lambda\mu\mu 1\left(26\eta^2\mu^2 - 8\eta\lambda\mu 1 - 29\eta\mu\rho + 3\rho^2\right) + \right. \\
&\delta^2\left(10\eta^2\mu^3 + \eta\mu(-25\lambda\mu 1 + 4\mu\rho) + 2\rho(4\lambda\mu 1 + 9\mu\rho)\right) - 2\delta\left(7\eta^3\mu^4 + \rho^2\right. \\
&\left.\left.(2\lambda\mu 1 + 3\mu\rho) - \eta^2\mu^2(9\lambda\mu 1 + 11\mu\rho) + \eta\left(-4\lambda^2\mu 1^2 - 12\lambda\mu\mu 1\rho + \mu^2\rho^2\right)\right)\Big) + \right. \\
&\beta 0\left(6\delta^4\mu - 20\eta^4\mu^5 + \eta\mu\rho^2(3\lambda\mu 1 + 2\mu\rho) + 2\rho^3(2\lambda\mu 1 + 3\mu\rho) - 2\delta^3\left(5\eta\mu^2 + \right.\right. \\
&\left.2\lambda\mu 1 + 12\mu\rho\right) + 2\eta^3\mu^3(23\lambda\mu 1 + 27\mu\rho) - 2\eta^2\mu\left(4\lambda^2\mu 1^2 + 23\lambda\mu\mu 1\rho + 21\mu^2\rho^2\right) + \\
&\delta^2\left(36\eta^2\mu^3 + 12\rho(\lambda\mu 1 + 3\mu\rho) + \eta\mu(-19\lambda\mu 1 + 22\mu\rho)\right) - 2\delta\left(6\eta^3\mu^4 + \eta^2\right. \\
&\left.\left.\mu^2(\lambda\mu 1 - 25\mu\rho) + 6\rho^2(\lambda\mu 1 + 2\mu\rho) + \eta\left(-4\lambda^2\mu 1^2 - 8\lambda\mu\mu 1\rho + 7\mu^2\rho^2\right)\right)\Big)\Big) + \\
\beta^2\Big(&\beta 0^3\mu\left(4\delta^3\mu - 8\eta^3\mu^4 + 2\eta\lambda\mu\mu 1\rho + 6\eta^2\mu^2(\lambda\mu 1 + 2\mu\rho) - \rho^2(\lambda\mu 1 + 4\mu\rho) - \right. \\
&\delta^2\left(4\eta\mu^2 + \lambda\mu 1 + 12\mu\rho\right) + 2\delta\left(4\eta^2\mu^3 + \eta\mu(-\lambda\mu 1 + 2\mu\rho) + \rho(\lambda\mu 1 + 6\mu\rho)\right)\Big) + \\
&2\eta\left(4\delta^5 - \delta^4(5\eta\mu + 16\rho) + \delta^3\left(7\eta^2\mu^2 - 2\eta\lambda\mu 1 + 4\eta\mu\rho + 24\rho^2\right) + \right. \\
&\delta^2\left(-16\rho^3 + \eta\rho(10\lambda\mu 1 + 7\mu\rho) + \eta^2\mu(-44\lambda\mu 1 + 9\mu\rho)\right) + \\
&2\eta\lambda\mu 1\left(8\eta^3\mu^3 - \rho^3 + 2\eta\rho(2\lambda\mu 1 + 5\mu\rho) - \eta^2\mu(6\lambda\mu 1 + 17\mu\rho)\right) - 2\delta\left(3\eta^4\mu^4 - 2\rho^4 + \right. \\
&\left.\left.3\eta\rho^2(\lambda\mu 1 + \mu\rho) - 7\eta^3\mu^2(3\lambda\mu 1 + \mu\rho) + \eta^2\left(-6\lambda^2\mu 1^2 + 5\lambda\mu\mu 1\rho + 3\mu^2\rho^2\right)\right)\Big) + \right. \\
&\beta 0^2\left(6\delta^4\mu - 20\eta^4\mu^5 + \eta\mu\rho^2(3\lambda\mu 1 + 2\mu\rho) + 2\rho^3(2\lambda\mu 1 + 3\mu\rho) - 2\delta^3\left(5\eta\mu^2 + \right.\right. \\
&\left.2\lambda\mu 1 + 12\mu\rho\right) + 2\eta^3\mu^3(23\lambda\mu 1 + 27\mu\rho) - 2\eta^2\mu\left(4\lambda^2\mu 1^2 + 23\lambda\mu\mu 1\rho + 21\mu^2\rho^2\right) + \\
&\delta^2\left(36\eta^2\mu^3 + 12\rho(\lambda\mu 1 + 3\mu\rho) + \eta\mu(-19\lambda\mu 1 + 22\mu\rho)\right) - 2\delta\left(6\eta^3\mu^4 + \eta^2\right. \\
&\left.\left.\mu^2(\lambda\mu 1 - 25\mu\rho) + 6\rho^2(\lambda\mu 1 + 2\mu\rho) + \eta\left(-4\lambda^2\mu 1^2 - 8\lambda\mu\mu 1\rho + 7\mu^2\rho^2\right)\right)\Big) + \right. \\
&2\beta 0\left(4\delta^5 - 6\eta^5\mu^5 - 4\rho^5 - 2\delta^4(\eta\mu + 10\rho) + 2\eta\rho^3(4\lambda\mu 1 + 5\mu\rho) + \right. \\
&4\eta^4\mu^3(9\lambda\mu 1 + 5\mu\rho) + \eta^2\lambda\mu 1\rho(8\lambda\mu 1 + 17\mu\rho) -
\end{aligned}
$$

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\begin{aligned}
&4\,\delta^3\,\left(\eta\,\lambda\,\mu 1+\eta\,\mu\,\rho-10\,\rho^2\right)-\eta^3\,\mu\,\left(16\,\lambda^2\,\mu 1^2+61\,\lambda\,\mu\,\mu 1\,\rho+20\,\mu^2\,\rho^2\right)+\\
&\delta^2\,\left(20\,\eta^3\,\mu^3-40\,\rho^3+8\,\eta\,\rho\,\left(2\,\lambda\,\mu 1+3\,\mu\,\rho\right)+\eta^2\,\mu\,\left(-53\,\lambda\,\mu 1+20\,\mu\,\rho\right)\right)-2\,\delta\,\left(8\,\eta^4\,\mu^4-10\right.\\
&\left.\rho^4+2\,\eta\,\rho^2\,\left(5\,\lambda\,\mu 1+7\,\mu\,\rho\right)-\eta^3\,\mu^2\,\left(21\,\lambda\,\mu 1+22\,\mu\,\rho\right)+\eta^2\,\left(-8\,\lambda^2\,\mu 1^2+10\,\mu^2\,\rho^2\right)\right)\Big)\Big)+\\
&\alpha^4\,\left(\mu\,\left(\delta\,\eta\,\left(\delta^2+6\,\delta\,\eta\,\mu-4\,\eta^2\,\mu^2-2\,\eta\,\lambda\,\mu 1-2\,\delta\,\rho-6\,\eta\,\mu\,\rho+\rho^2\right)-\beta 0^2\,\mu\right.\right.\\
&\left(\delta^2+2\,\delta\,\eta\,\mu-6\,\eta^2\,\mu^2-2\,\delta\,\rho+5\,\eta\,\mu\,\rho+\rho^2\right)+\beta 0\,\left(\delta^3+6\,\eta^3\,\mu^3+\delta^2\,\left(5\,\eta\,\mu-3\,\rho\right)-\\
&\left.\left.4\,\eta^2\,\mu^2\,\rho-\eta\,\mu\,\rho^2-\rho^3-\delta\,\left(6\,\eta^2\,\mu^2+2\,\eta\,\lambda\,\mu 1+4\,\eta\,\mu\,\rho-3\,\rho^2\right)\right)\right)+\\
&\beta^4\,\eta\,\left(\beta 0^4\,\delta\,\mu\,\left(\delta^2+6\,\delta\,\eta\,\mu-4\,\eta^2\,\mu^2-2\,\eta\,\lambda\,\mu 1-2\,\delta\,\rho-6\,\eta\,\mu\,\rho+\rho^2\right)+\right.\\
&4\,\eta^3\,\left(8\,\delta^4+4\,\eta^2\,\lambda^2\,\mu 1^2-16\,\delta\,\eta\,\lambda\,\mu 1\,\left(\eta\,\mu-\rho\right)+3\,\delta^2\,\left(-\eta\,\mu+\rho\right)^2-4\,\delta^3\,\left(2\,\eta\,\mu+3\,\rho\right)\right)+\\
&\beta 0^2\,\eta\,\left(16\,\delta^4+4\,\delta^3\,\left(5\,\eta\,\mu-13\,\rho\right)-\delta^2\,\left(5\,\eta^2\,\mu^2+24\,\eta\,\lambda\,\mu 1+67\,\eta\,\mu\,\rho-56\,\rho^2\right)+\right.\\
&4\,\eta\,\lambda\,\mu 1\,\left(-3\,\eta^2\,\mu^2-2\,\rho^2+5\,\eta\,\left(\lambda\,\mu 1+\mu\,\rho\right)\right)+\\
&\left.4\,\delta\,\left(2\,\eta^3\,\mu^3-5\,\rho^3+12\,\eta\,\rho\,\left(\lambda\,\mu 1+\mu\,\rho\right)-3\,\eta^2\,\mu\,\left(5\,\lambda\,\mu 1+3\,\mu\,\rho\right)\right)\right)+\\
&4\,\beta 0\,\eta^2\,\left(12\,\delta^4-\delta^3\,\left(6\,\eta\,\mu+25\,\rho\right)-4\,\delta^2\,\left(\eta\,\lambda\,\mu 1+4\,\eta\,\mu\,\rho-4\,\rho^2\right)-2\,\eta\,\lambda\,\mu 1\,\left(\eta^2\,\mu^2+\rho^2-\right.\right.\\
&\left.\left.2\,\eta\,\left(2\,\lambda\,\mu 1+\mu\,\rho\right)\right)+\delta\,\left(3\,\eta^3\,\mu^3-3\,\rho^3+\eta\,\rho\,\left(26\,\lambda\,\mu 1+9\,\mu\,\rho\right)-\eta^2\,\mu\,\left(28\,\lambda\,\mu 1+9\,\mu\,\rho\right)\right)\right)+\\
&\beta 0^3\,\eta\,\left(13\,\delta^3\,\mu+\delta^2\,\left(13\,\eta\,\mu^2-8\,\lambda\,\mu 1-28\,\mu\,\rho\right)+4\,\eta\,\lambda\,\mu 1\,\left(-\eta\,\mu^2+\lambda\,\mu 1+\mu\,\rho\right)+\right.\\
&\left.\left.\delta\,\left(-8\,\eta^2\,\mu^3-7\,\eta\,\mu\,\left(2\,\lambda\,\mu 1+\mu\,\rho\right)+\rho\,\left(8\,\lambda\,\mu 1+15\,\mu\,\rho\right)\right)\right)\right)+\\
&\beta\,\left(2\,\beta 0^3\,\mu^2\,\left(\delta^2+8\,\eta^2\,\mu^2-9\,\eta\,\mu\,\rho+\rho^2-2\,\delta\,\left(3\,\eta\,\mu+\rho\right)\right)+\beta 0^2\,\mu\right.\\
&\left(-\delta^3+42\,\eta^3\,\mu^3+\rho^3+\delta^2\,\left(-5\,\eta\,\mu+3\,\rho\right)-4\,\eta^2\,\mu\,\left(4\,\lambda\,\mu 1+19\,\mu\,\rho\right)+\right.\\
&\eta\,\rho\,\left(8\,\lambda\,\mu 1+33\,\mu\,\rho\right)-\delta\,\left(6\,\eta^2\,\mu^2-10\,\eta\,\lambda\,\mu 1+28\,\eta\,\mu\,\rho+3\,\rho^2\right)\Big)+\\
&\beta 0\,\eta\,\left(12\,\delta^3\,\mu+26\,\eta^3\,\mu^4-3\,\mu\,\rho^3+\delta^2\,\left(6\,\eta\,\mu^2-8\,\lambda\,\mu 1-27\,\mu\,\rho\right)-5\,\eta^2\,\mu^2\,\left(4\,\lambda\,\mu 1+11\,\mu\,\rho\right)+\right.\\
&4\,\eta\,\left(\lambda^2\,\mu 1^2+3\,\lambda\,\mu\,\mu 1\,\rho+8\,\mu^2\,\rho^2\right)-2\,\delta\,\left(\eta^2\,\mu^3+2\,\eta\,\mu\,\left(\lambda\,\mu 1+8\,\mu\,\rho\right)-\rho\,\left(4\,\lambda\,\mu 1+9\,\mu\,\rho\right)\right)\Big)+\\
&\eta^2\,\left(13\,\delta^3\,\mu+\delta^2\,\left(13\,\eta\,\mu^2-8\,\lambda\,\mu 1-28\,\mu\,\rho\right)+4\,\eta\,\lambda\,\mu 1\,\left(-\eta\,\mu^2+\lambda\,\mu 1+\mu\,\rho\right)+\right.\\
&\left.\left.\delta\,\left(-8\,\eta^2\,\mu^3-7\,\eta\,\mu\,\left(2\,\lambda\,\mu 1+\mu\,\rho\right)+\rho\,\left(8\,\lambda\,\mu 1+15\,\mu\,\rho\right)\right)\right)\right)-\\
&\beta^2\,\left(\beta 0^4\,\mu^2\,\left(\delta^2+2\,\delta\,\eta\,\mu-6\,\eta^2\,\mu^2-2\,\delta\,\rho+5\,\eta\,\mu\,\rho+\rho^2\right)+\beta 0^3\,\mu\,\left(\delta^3-42\,\eta^3\,\mu^3+\delta^2\,\left(5\,\eta\,\mu-3\,\rho\right)-\rho^3+\right.\right.\\
&4\,\eta^2\,\mu\,\left(4\,\lambda\,\mu 1+19\,\mu\,\rho\right)-\eta\,\rho\,\left(8\,\lambda\,\mu 1+33\,\mu\,\rho\right)+\delta\,\left(6\,\eta^2\,\mu^2-10\,\eta\,\lambda\,\mu 1+28\,\eta\,\mu\,\rho+3\,\rho^2\right)\Big)+\\
&\eta^2\,\left(-16\,\delta^4+\delta^3\,\left(-20\,\eta\,\mu+52\,\rho\right)+\delta^2\,\left(5\,\eta^2\,\mu^2+24\,\eta\,\lambda\,\mu 1+67\,\eta\,\mu\,\rho-56\,\rho^2\right)+\right.\\
&4\,\eta\,\lambda\,\mu 1\,\left(3\,\eta^2\,\mu^2+2\,\rho^2-5\,\eta\,\left(\lambda\,\mu 1+\mu\,\rho\right)\right)-\\
&\left.4\,\delta\,\left(2\,\eta^3\,\mu^3-5\,\rho^3+12\,\eta\,\rho\,\left(\lambda\,\mu 1+\mu\,\rho\right)-3\,\eta^2\,\mu\,\left(5\,\lambda\,\mu 1+3\,\mu\,\rho\right)\right)\right)-\\
&2\,\beta 0^2\,\eta\,\left(11\,\delta^3\,\mu+34\,\eta^3\,\mu^4-\rho^2\,\left(8\,\lambda\,\mu 1+19\,\mu\,\rho\right)-3\,\eta^2\,\mu^2\,\left(12\,\lambda\,\mu 1+29\,\mu\,\rho\right)-\right.\\
&\delta^2\,\left(30\,\eta\,\mu^2+8\,\lambda\,\mu 1+41\,\mu\,\rho\right)+4\,\eta\,\left(\lambda^2\,\mu 1^2+9\,\lambda\,\mu\,\mu 1\,\rho+18\,\mu^2\,\rho^2\right)+\\
&\delta\,\left(30\,\eta^2\,\mu^3+2\,\eta\,\mu\,\left(7\,\lambda\,\mu 1-47\,\mu\,\rho\right)+\rho\,\left(16\,\lambda\,\mu 1+49\,\mu\,\rho\right)\right)\Big)+\\
&\beta 0\,\eta\,\left(-16\,\delta^4+\delta^3\,\left(-43\,\eta\,\mu+52\,\rho\right)+\delta^2\,\left(61\,\eta^2\,\mu^2-60\,\rho^2+8\,\eta\,\left(5\,\lambda\,\mu 1+19\,\mu\,\rho\right)\right)+\right.\\
&\delta\,\left(-72\,\eta^3\,\mu^3+28\,\rho^3-\eta\,\rho\,\left(80\,\lambda\,\mu 1+153\,\mu\,\rho\right)+\eta^2\,\mu\,\left(42\,\lambda\,\mu 1+197\,\mu\,\rho\right)\right)-\\
&4\,\left(8\,\eta^4\,\mu^4+\rho^4-\eta\,\rho^2\,\left(6\,\lambda\,\mu 1+11\,\mu\,\rho\right)-\eta^3\,\mu^2\right.\\
&\left.\left.\left.\left(17\,\lambda\,\mu 1+25\,\mu\,\rho\right)+\eta^2\,\left(7\,\lambda^2\,\mu 1^2+21\,\lambda\,\mu\,\mu 1\,\rho+27\,\mu^2\,\rho^2\right)\right)\right)\right)+\\
&\beta^3\,\left(\beta 0^4\,\mu\,\left(\delta^3+6\,\eta^3\,\mu^3+\delta^2\,\left(5\,\eta\,\mu-3\,\rho\right)-4\,\eta^2\,\mu^2\,\rho-\eta\,\mu\,\rho^2-\rho^3-\right.\right.\\
&\left.\delta\,\left(6\,\eta^2\,\mu^2+2\,\eta\,\lambda\,\mu 1+4\,\eta\,\mu\,\rho-3\,\rho^2\right)\right)+\\
&\beta 0^3\,\eta\,\left(12\,\delta^3\,\mu+26\,\eta^3\,\mu^4-3\,\mu\,\rho^3+\delta^2\,\left(6\,\eta\,\mu^2-8\,\lambda\,\mu 1-27\,\mu\,\rho\right)-5\,\eta^2\,\mu^2\,\left(4\,\lambda\,\mu 1+11\,\mu\,\rho\right)+\right.\\
&4\,\eta\,\left(\lambda^2\,\mu 1^2+3\,\lambda\,\mu\,\mu 1\,\rho+8\,\mu^2\,\rho^2\right)-2\,\delta\,\left(\eta^2\,\mu^3+2\,\eta\,\mu\,\left(\lambda\,\mu 1+8\,\mu\,\rho\right)-\rho\,\left(4\,\lambda\,\mu 1+9\,\mu\,\rho\right)\right)\Big)+\\
&4\,\eta^3\,\left(12\,\delta^4-\delta^3\,\left(6\,\eta\,\mu+25\,\rho\right)-4\,\delta^2\,\left(\eta\,\lambda\,\mu 1+4\,\eta\,\mu\,\rho-4\,\rho^2\right)-\right.\\
&2\,\eta\,\lambda\,\mu 1\,\left(\eta^2\,\mu^2+\rho^2-2\,\eta\,\left(2\,\lambda\,\mu 1+\mu\,\rho\right)\right)+\\
&\left.\left.\delta\,\left(3\,\eta^3\,\mu^3-3\,\rho^3+\eta\,\rho\,\left(26\,\lambda\,\mu 1+9\,\mu\,\rho\right)-\eta^2\,\mu\,\left(28\,\lambda\,\mu 1+9\,\mu\,\rho\right)\right)\right)+2\,\beta 0\,\eta^2
\end{aligned}
$$

$$\Big(32\,\delta^4 + 6\,\eta^4\,\mu^4 + 4\,\delta^3\,(\eta\,\mu - 19\,\rho) + 6\,\rho^4 - 8\,\eta\,\rho^2\,(2\,\lambda\,\mu1 + 3\,\mu\,\rho) - 4\,\eta^3\,\mu^2\,(7\,\lambda\,\mu1 + 6\,\mu\,\rho) - \delta^2\,\Big(31\,\eta^2\,\mu^2 + 24\,\eta\,\lambda\,\mu1 + 95\,\eta\,\mu\,\rho - 62\,\rho^2\Big) + 4\,\eta^2\,\Big(7\,\lambda^2\,\mu1^2 + 11\,\lambda\,\mu\,\mu1\,\rho + 9\,\mu^2\,\rho^2\Big) + 4\,\delta\,\Big(10\,\eta^3\,\mu^3 - 6\,\rho^3 + 22\,\eta\,\rho\,(\lambda\,\mu1 + \mu\,\rho) - \eta^2\,\mu\,(19\,\lambda\,\mu1 + 26\,\mu\,\rho)\Big)\Big) + \beta0^2\,\eta\,\Big(16\,\delta^4 + \delta^3\,(43\,\eta\,\mu - 52\,\rho) - \delta^2\,\Big(61\,\eta^2\,\mu^2 - 60\,\rho^2 + 8\,\eta\,(5\,\lambda\,\mu1 + 19\,\mu\,\rho)\Big) + \delta\,\Big(72\,\eta^3\,\mu^3 - 28\,\rho^3 + \eta\,\rho\,(80\,\lambda\,\mu1 + 153\,\mu\,\rho) - \eta^2\,\mu\,(42\,\lambda\,\mu1 + 197\,\mu\,\rho)\Big) + 4\,\Big(8\,\eta^4\,\mu^4 + \rho^4 - \eta\,\rho^2\,(6\,\lambda\,\mu1 + 11\,\mu\,\rho) - \eta^3\,\mu^2\,(17\,\lambda\,\mu1 + 25\,\mu\,\rho) + \eta^2\,\Big(7\,\lambda^2\,\mu1^2 + 21\,\lambda\,\mu\,\mu1\,\rho + 27\,\mu^2\,\rho^2\Big)\Big)\Big)\Big);$$