

附錄二

$$1. \frac{\partial \pi_1}{\partial x_1} =$$

$$\begin{aligned} & \frac{1}{\bar{y}} (0.0493827 (1.5 (e + 0. a_1 + 0.5 a_2 + 0.5 k_1) \\ & \quad (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) - \\ & \quad 1.5 (-e + 0.75 a_1 - 0.5 a_2 + 1. k_1 - 1.5 k_2) \\ & \quad (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 - 1. k_1 + 0.5 k_2) - \\ & \quad 0.5 (-1 - e - 0.5 \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) \\ & \quad (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 - 1. k_1 + 0.5 k_2))) + \\ & \frac{1}{\bar{y}} ((5.31528 + 0.00411523 \bar{y}^2 + 0. a_1^2 + 1.73533 a_2 + \\ & \quad 0.139918 a_2^2 - 1.1963 b_1 - 0.213992 a_2 b_1 + 0.0164609 b_1^2 - \\ & \quad 1.1963 c_1 - 0.213992 a_2 c_1 + 0.0329218 b_1 c_1 + \\ & \quad 0.0164609 c_1^2 + 1.1963 c_2 + 0.213992 a_2 c_2 - \\ & \quad 0.0329218 b_1 c_2 - 0.0329218 c_1 c_2 + 0.0164609 c_2^2 - \\ & \quad 0.867667 k_1 - 0.139918 a_2 k_1 + 0.106996 b_1 k_1 + \\ & \quad 0.106996 c_1 k_1 - 0.106996 c_2 k_1 + 0.164609 k_1^2 + \\ & \quad a_1 (-0.164317 - 0.037037 a_2 - 0.037037 b_1 - 0.037037 c_1 + \\ & \quad 0.037037 c_2 + 0.12963 k_1 - 0.0925926 k_2) + \\ & \quad \bar{y} (0.598151 + 0.0185185 a_1 + 0.106996 a_2 - \\ & \quad 0.0164609 b_1 - 0.0164609 c_1 + 0.0164609 c_2 - \\ & \quad 0.0534979 k_1 + 0.150206 k_2) + 1.85531 k_2 + \\ & \quad 0.286008 a_2 k_2 - 0.300412 b_1 k_2 - 0.300412 c_1 k_2 + \\ & \quad 0.300412 c_2 k_2 - 0.300412 k_1 k_2 + 0.146091 k_2^2) x_1) + \\ & \frac{1}{\bar{y}} (0.0329218 \\ & \quad (-161.452 - 0.125 \bar{y}^2 - 35.4398 a_2 - 1.625 a_2^2 + 36.3377 b_1 + \\ & \quad 3.5 a_2 b_1 - 0.5 b_1^2 + 36.3377 c_1 + 3.5 a_2 c_1 - 1. b_1 c_1 - \\ & \quad 0.5 c_1^2 - 36.3377 c_2 - 3.5 a_2 c_2 + 1. b_1 c_2 + 1. c_1 c_2 - \\ & \quad 0.5 c_2^2 + 26.3554 k_1 + 2.9375 a_2 k_1 - 3.25 b_1 k_1 - 3.25 c_1 k_1 + \\ & \quad 3.25 c_2 k_1 - 5. k_1^2 + \bar{y} (-18.1688 - 0.28125 a_1 - 1.75 a_2 + \\ & \quad 0.5 b_1 + 0.5 c_1 - 0.5 c_2 + 1.625 k_1 - 4.5625 k_2) - \\ & \quad 56.3551 k_2 - 6.625 a_2 k_2 + 9.125 b_1 k_2 + 9.125 c_1 k_2 - \\ & \quad 9.125 c_2 k_2 + 9.125 k_1 k_2 - 4.4375 k_2^2 + \\ & \quad a_1 (2.49557 - 0.28125 a_2 + 0.5625 b_1 + 0.5625 c_1 - \\ & \quad 0.5625 c_2 - 1.96875 k_1 + 1.40625 k_2) (-1 + x_2)) + \end{aligned}$$

$$\frac{1}{\bar{y}}$$

$$(0.0329218 (120.233 + 0.25 \bar{y}^2 + 24.6441 a_2 + 1. a_2^2 - 12.5914 b_1 + 0.5 a_2 b_1 - 0.5 b_1^2 - 30.4011 c_1 - 2.5 a_2 c_1 + 0.5 b_1 c_1 + 1. c_1^2 + 30.4011 c_2 + 2.5 a_2 c_2 - 0.5 b_1 c_2 - 2. c_1 c_2 + 1. c_2^2 - 12.3221 k_1 - 1. a_2 k_1 - 0.25 b_1 k_1 + 1.25 c_1 k_1 - 1.25 c_2 k_1 + 1.375 k_1^2 + a_1 (-4.99113 - 0.28125 a_2 - 1.125 b_1 + 0.5625 c_1 - 0.5625 c_2 + 2.25 k_1 - 1.96875 k_2) + 20.1917 k_2 + 1.8125 a_2 k_2 + 0.875 b_1 k_2 - 2.6875 c_1 k_2 + 2.6875 c_2 k_2 - 3.71875 k_1 k_2 + 2.5 k_2^2 + \bar{y} (15.2006 - 0.28125 a_1 + 1.25 a_2 - 0.25 b_1 - 1. c_1 + 1. c_2 - 0.625 k_1 + 1.34375 k_2)) (1 + z_1)) -$$

$$\frac{1}{\bar{y}}$$

$$((3.95828 + 0.00823045 \bar{y}^2 + 0.811329 a_2 + 0.0329218 a_2^2 - 1.00086 b_1 - 0.0823045 a_2 b_1 + 0.0329218 b_1^2 + 0.586327 b_2 + 0.0987654 a_2 b_2 - 0.0493827 b_1 b_2 - 1.00086 c_1 - 0.0823045 a_2 c_1 + 0.0658436 b_1 c_1 - 0.0493827 b_2 c_1 + 0.0329218 c_1^2 + 1.00086 c_2 + 0.0823045 a_2 c_2 - 0.0658436 b_1 c_2 + 0.0493827 b_2 c_2 - 0.0658436 c_1 c_2 + 0.0329218 c_2^2 - 0.405664 k_1 - 0.0329218 a_2 k_1 + 0.0411523 b_1 k_1 - 0.0493827 b_2 k_1 + 0.0411523 c_1 k_1 - 0.0411523 c_2 k_1 + 0.0452675 k_1^2 + a_1 (-0.164317 - 0.00925926 a_2 + 0.0185185 b_1 - 0.0555556 b_2 + 0.0185185 c_1 - 0.0185185 c_2 + 0.0740741 k_1 - 0.0648148 k_2) + \bar{y} (0.50043 - 0.00925926 a_1 + 0.0411523 a_2 - 0.0329218 b_1 + 0.0246914 b_2 - 0.0329218 c_1 + 0.0329218 c_2 - 0.0205761 k_1 + 0.0442387 k_2) + 0.664747 k_2 + 0.0596708 a_2 k_2 - 0.0884774 b_1 k_2 + 0.117284 b_2 k_2 - 0.0884774 c_1 k_2 + 0.0884774 c_2 k_2 - 0.122428 k_1 k_2 + 0.0823045 k_2^2) z_2) = 0$$

$$2. \frac{\partial \pi_1}{\partial z_1} =$$

$$-\frac{1}{\bar{y}}$$

$$(0.0493827 (-1.5 (1 - e - b_1 + 0. k_1 - 0.5 k_2) (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) + (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 - 1. k_1 + 0.5 k_2) - 1.5 (1 - e - b_1 + 0. k_1 + 0.25 k_2) (1 + e + 0.5 \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 - 1. k_1 + 0.5 k_2))) -$$

$$\frac{1}{\bar{y}} (0.0329218$$

$$\begin{aligned} & (-120.233 - 0.25 \bar{y}^2 - 24.6441 a_2 - 1. a_2^2 + 12.5914 b_1 - \\ & 0.5 a_2 b_1 + 0.5 b_1^2 + 30.4011 c_1 + 2.5 a_2 c_1 - 0.5 b_1 c_1 - \\ & 1. c_1^2 - 30.4011 c_2 - 2.5 a_2 c_2 + 0.5 b_1 c_2 + 2. c_1 c_2 - 1. c_2^2 + \\ & 12.3221 k_1 + 1. a_2 k_1 + 0.25 b_1 k_1 - 1.25 c_1 k_1 + 1.25 c_2 k_1 - \\ & 1.375 k_1^2 + \bar{y} (-15.2006 + 0.28125 a_1 - 1.25 a_2 + 0.25 b_1 + \\ & 1. c_1 - 1. c_2 + 0.625 k_1 - 1.34375 k_2) - 20.1917 k_2 - \\ & 1.8125 a_2 k_2 - 0.875 b_1 k_2 + 2.6875 c_1 k_2 - 2.6875 c_2 k_2 + \\ & 3.71875 k_1 k_2 - 2.5 k_2^2 + a_1 (4.99113 + 0.28125 a_2 + 1.125 b_1 - \\ & 0.5625 c_1 + 0.5625 c_2 - 2.25 k_1 + 1.96875 k_2)) x_1) - \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0329218 (120.233 + 0.25 \bar{y}^2 + 0.25 a_2^2 - 12.5914 b_1 - 0.5 b_1^2 -$$

$$\begin{aligned} & 30.4011 c_1 + 0.5 b_1 c_1 + 1. c_1^2 + 30.4011 c_2 - 0.5 b_1 c_2 - \\ & 2. c_1 c_2 + 1. c_2^2 - 12.3221 k_1 - 0.25 b_1 k_1 + 1.25 c_1 k_1 - \\ & 1.25 c_2 k_1 + 1.375 k_1^2 + 20.1917 k_2 + 0.875 b_1 k_2 - \\ & 2.6875 c_1 k_2 + 2.6875 c_2 k_2 - 3.71875 k_1 k_2 + 2.5 k_2^2 + a_2 \\ & (15.2006 - 0.25 b_1 - 1. c_1 + 1. c_2 - 0.625 k_1 + 1.34375 k_2) + \\ & \bar{y} (15.2006 + 0.5 a_2 - 0.25 b_1 - 1. c_1 + 1. c_2 - \\ & 0.625 k_1 + 1.34375 k_2)) (-1 + x_2)) + \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0658436 (85.1189 + 0.25 \bar{y}^2 + 0.25 a_2^2 - 5.93656 b_1 + 0.25 b_1^2 -$$

$$\begin{aligned} & 24.8237 c_1 - 1. b_1 c_1 + c_1^2 + 24.8237 c_2 + 1. b_1 c_2 - 2 c_1 c_2 + \\ & c_2^2 - 6.20592 k_1 - 0.25 b_1 k_1 + 0.5 c_1 k_1 - 0.5 c_2 k_1 - 0.5 k_1^2 + \\ & a_2 (12.4118 + 0.5 b_1 - 1. c_1 + 1. c_2 - 0.25 k_1 + 0.59375 k_2) + \\ & \bar{y} (12.4118 + 0.5 a_2 + 0.5 b_1 - 1. c_1 + 1. c_2 - 0.25 k_1 + \\ & 0.59375 k_2) + 7.55538 k_2 - 0.25 b_1 k_2 - 1.1875 c_1 k_2 + \\ & 1.1875 c_2 k_2 + 2.375 k_1 k_2 - 1.34375 k_2^2) (-1 + z_1)) - \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0329218$$

$$\begin{aligned} & (170.238 + 0.5 \bar{y}^2 + 0.5 a_2^2 - 30.7602 b_1 - 1. b_1^2 + 18.8871 b_2 + \\ & 1.5 b_1 b_2 - 49.6474 c_1 + 1. b_1 c_1 - 3. b_2 c_1 + 2 c_1^2 + 49.6474 c_2 - \\ & 1. b_1 c_2 + 3. b_2 c_2 - 4 c_1 c_2 + 2 c_2^2 - 12.4118 k_1 + 0.25 b_1 k_1 - \\ & 0.75 b_2 k_1 + 1. c_1 k_1 - 1. c_2 k_1 - 1. k_1^2 + 15.1108 k_2 - \\ & 1.4375 b_1 k_2 + 0.9375 b_2 k_2 - 2.375 c_1 k_2 + 2.375 c_2 k_2 + \\ & 4.75 k_1 k_2 - 2.6875 k_2^2 + a_2 (24.8237 - 0.5 b_1 + 1.5 b_2 - \\ & 2. c_1 + 2. c_2 - 0.5 k_1 + 1.1875 k_2) + \bar{y} (24.8237 + 1. a_2 - \\ & 0.5 b_1 + 1.5 b_2 - 2. c_1 + 2. c_2 - 0.5 k_1 + 1.1875 k_2)) z_2) \end{aligned}$$

= 0

$$3. \frac{\partial \pi_2}{\partial x_2} =$$

$$\frac{1}{\bar{y}} (0.0493827$$

$$(1.5 (1 + e - 4 \cdot \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) \\ (2 e + 1.5 a_2 - 0.5 k_1 + 1.5 k_2) + \\ (2 + 2 e + 1 \cdot \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) \\ (5.93656 + 0.25 \bar{y} + 0.25 a_2 - 0.5 b_1 - \\ 0.5 c_1 + 0.5 c_2 - 1.25 k_1 + 2.125 k_2)) -$$

$$0.0329218$$

$$(-322.903 - 0.25 \bar{y}^2 - 56.9836 a_2 - 2.875 a_2^2 + 18.1688 b_1 + \\ 2.125 a_2 b_1 + 0.5 b_1^2 + 18.1688 c_1 + 2.125 a_2 c_1 + 1 \cdot b_1 c_1 + \\ 0.5 c_1^2 - 18.1688 c_2 - 2.125 a_2 c_2 - 1 \cdot b_1 c_2 - 1 \cdot c_1 c_2 + \\ 0.5 c_2^2 + 77.2705 k_1 + 3.625 a_2 k_1 + 2.5 b_1 k_1 + 2.5 c_1 k_1 - \\ 2.5 c_2 k_1 - 3.625 k_1^2 + a_1 (10.8617 + 0.84375 a_2 + 3.375 b_1 + \\ 3.375 c_1 - 3.375 c_2 - 0.84375 k_1 + 0.84375 k_2) - \\ 150.897 k_2 - 9.59375 a_2 k_2 + 0.25 b_1 k_2 + 0.25 c_1 k_2 - \\ 0.25 c_2 k_2 + 10.75 k_1 k_2 - 10.0938 k_2^2 + \\ \bar{y} (73.7528 + 5.90625 a_1 + 6.4375 a_2 + 0.25 b_1 + \\ 0.25 c_1 - 0.25 c_2 - 2.75 k_1 + 16.9375 k_2)) x_1 -$$

$$0.0658436$$

$$(161.452 + 0.125 \bar{y}^2 + 0.5 a_2^2 - 9.08442 b_1 - 0.25 b_1^2 - 9.08442 c_1 - \\ 0.5 b_1 c_1 - 0.25 c_1^2 + 9.08442 c_2 + 0.5 b_1 c_2 + 0.5 c_1 c_2 - \\ 0.25 c_2^2 - 38.6352 k_1 - 1.25 b_1 k_1 - 1.25 c_1 k_1 + 1.25 c_2 k_1 + \\ 1.8125 k_1^2 + \bar{y} (-36.8764 + 0.625 a_2 - 0.125 b_1 - 0.125 c_1 + \\ 0.125 c_2 + 1.375 k_1 - 8.46875 k_2) + 75.4483 k_2 - \\ 0.125 b_1 k_2 - 0.125 c_1 k_2 + 0.125 c_2 k_2 - 5.375 k_1 k_2 + \\ 5.04688 k_2^2 + a_2 (17.8995 - 0.875 b_1 - 0.875 c_1 + \\ 0.875 c_2 - 2.1875 k_1 + 4.84375 k_2)) (-1 + x_2) +$$

$$0.0329218$$

$$(-240.465 - 0.5 \bar{y}^2 - 0.875 a_2^2 + 6.2957 b_1 - 0.5 b_1^2 + 15.2006 c_1 + \\ 0.5 b_1 c_1 + 1 \cdot c_1^2 - 15.2006 c_2 - 0.5 b_1 c_2 - 2 \cdot c_1 c_2 + \\ 1 \cdot c_2^2 + 16.0086 k_1 - 0.625 b_1 k_1 - 0.25 c_1 k_1 + \\ 0.25 c_2 k_1 - 0.125 k_1^2 + \bar{y} (24.6441 - 1.375 a_2 + \\ 0.125 b_1 + 0.5 c_1 - 0.5 c_2 + 1.625 k_1 - 3.15625 k_2) + \\ a_2 (-21.7656 - 1.375 b_1 + 1.25 c_1 - 1.25 c_2 - 1 \cdot k_1 + \\ 0.96875 k_2) - 36.4697 k_2 + 0.5 b_1 k_2 + 0.875 c_1 k_2 - \\ 0.875 c_2 k_2 + 0.03125 k_1 k_2 + 0.15625 k_2^2) (-1 + z_1) +$$

0.0329218

$$\begin{aligned}
 & (240.465 + 0.5 \bar{y}^2 + 0.875 a_2^2 - 15.2006 b_1 - 1. b_1^2 + 8.90485 b_2 + \\
 & 1.5 b_1 b_2 - 15.2006 c_1 - 2. b_1 c_1 + 1.5 b_2 c_1 - 1. c_1^2 + \\
 & 15.2006 c_2 + 2. b_1 c_2 - 1.5 b_2 c_2 + 2. c_1 c_2 - 1. c_2^2 - \\
 & 16.0086 k_1 + 0.25 b_1 k_1 + 0.375 b_2 k_1 + 0.25 c_1 k_1 - \\
 & 0.25 c_2 k_1 + 0.125 k_1^2 + a_2 (21.7656 - 1.25 b_1 + 2.625 b_2 - \\
 & 1.25 c_1 + 1.25 c_2 + 1. k_1 - 0.96875 k_2) + 36.4697 k_2 - \\
 & 0.875 b_1 k_2 + 0.375 b_2 k_2 - 0.875 c_1 k_2 + 0.875 c_2 k_2 - \\
 & 0.03125 k_1 k_2 - 0.15625 k_2^2 + \bar{y} (-24.6441 + 1.375 a_2 - 0.5 b_1 + \\
 & 0.375 b_2 - 0.5 c_1 + 0.5 c_2 - 1.625 k_1 + 3.15625 k_2)) z_2) = 0
 \end{aligned}$$

4. $\frac{\partial \pi_2}{\partial z_2} =$

$$\begin{aligned}
 & -\frac{1}{\bar{y}} (0.0493827 ((6.2957 + 0.5 \bar{y} + 0.5 a_2 - \\
 & \quad b_1 + 1.5 b_2 - c_1 + c_2 + 0.5 k_1 - 0.625 k_2) \\
 & \quad (2 + 2 e + 1. \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) + \\
 & \quad 1.5 (1 + e - 4. \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) \\
 & \quad (-2 + 2 e - b_2 + 0. k_1 + 0.25 k_2))) + \\
 & \frac{1}{\bar{y}} (0.0329218 \\
 & \quad (-2.25 (1 + e - 4. \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) \\
 & \quad (2 e + 0.25 a_1 + 0. k_1 + 0. k_2) + 1.5 \\
 & \quad (-5.93656 + 1.125 a_1 - 0.5 a_2 + 0.5 b_2 + 1. k_1 - 1.625 k_2) \\
 & \quad (2 + 2 e + 1. \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) - \\
 & \quad 1. (6.2957 + 0.5 \bar{y} + 0.5 a_2 - b_1 + 1.5 b_2 - \\
 & \quad c_1 + c_2 + 0.5 k_1 - 0.625 k_2) \\
 & \quad (2 + 2 e + 1. \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) - \\
 & \quad 1.5 (6.2957 + 0.5 \bar{y} + 0.5 a_2 - b_1 + 1.5 b_2 - c_1 + c_2 + 0.5 k_1 - \\
 & \quad 0.625 k_2) (2 e + 0.75 a_1 + 1. a_2 - 0.5 k_1 + 1.5 k_2) - \\
 & \quad 1.5 (-2 + 2 e - b_2 + 0. k_1 + 0.25 k_2) \\
 & \quad (5.93656 + 0.25 \bar{y} - 1.125 a_1 + 1. a_2 - 0.5 b_1 - \\
 & \quad 0.5 c_1 + 0.5 c_2 - 1.25 k_1 + 2.125 k_2)) x_1) +
 \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0329218$$

$$\begin{aligned} & (240.465 + 0.5 \bar{y}^2 + 0.875 a_2^2 - 15.2006 b_1 - 1. b_1^2 + 8.90485 b_2 + \\ & 1.5 b_1 b_2 - 15.2006 c_1 - 2. b_1 c_1 + 1.5 b_2 c_1 - 1. c_1^2 + \\ & 15.2006 c_2 + 2. b_1 c_2 - 1.5 b_2 c_2 + 2. c_1 c_2 - 1. c_2^2 - 16.0086 \\ & k_1 + 0.25 b_1 k_1 + 0.375 b_2 k_1 + 0.25 c_1 k_1 - 0.25 c_2 k_1 + \\ & 0.125 k_1^2 + a_2 (21.7656 - 1.25 b_1 + 2.625 b_2 - 1.25 c_1 + \\ & 1.25 c_2 + 1. k_1 - 0.96875 k_2) + 36.4697 k_2 - 0.875 b_1 k_2 + \\ & 0.375 b_2 k_2 - 0.875 c_1 k_2 + 0.875 c_2 k_2 - 0.03125 k_1 k_2 - \\ & 0.15625 k_2^2 + \bar{y} (-24.6441 + 1.375 a_2 - 0.5 b_1 + 0.375 b_2 - \\ & 0.5 c_1 + 0.5 c_2 - 1.625 k_1 + 3.15625 k_2)) (-1 + x_2)) - \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0329218$$

$$\begin{aligned} & (-340.476 - 1. \bar{y}^2 + 0.5 a_2^2 + 15.3801 b_1 - 1. b_1^2 - 9.44356 b_2 + \\ & 1.5 b_1 b_2 + 24.8237 c_1 + 1. b_1 c_1 - 3. b_2 c_1 + 2 c_1^2 - \\ & 24.8237 c_2 - 1. b_1 c_2 + 3. b_2 c_2 - 4 c_1 c_2 + 2 c_2^2 - 12.4118 k_1 - \\ & 0.5 b_1 k_1 + 1.5 b_2 k_1 - 2. c_1 k_1 + 2. c_2 k_1 + 0.5 k_1^2 + \\ & a_2 (-12.4118 - 0.5 b_1 + 1.5 b_2 - 2. c_1 + 2. c_2 + \\ & 1. k_1 - 2.375 k_2) + 15.1108 k_2 + 2.875 b_1 k_2 - \\ & 1.875 b_2 k_2 + 4.75 c_1 k_2 - 4.75 c_2 k_2 - 2.375 k_1 k_2 + \\ & 1.34375 k_2^2 + \bar{y} (60.4431 - 0.5 a_2 + 0.25 b_1 - 0.75 b_2 + \\ & 1. c_1 - 1. c_2 - 0.5 k_1 + 6.25 k_2)) (-1 + z_1)) - \end{aligned}$$

$$\frac{1}{\bar{y}} (0.0658436$$

$$\begin{aligned} & ((6.2957 + 0.5 \bar{y} + 0.5 a_2 - b_1 + 1.5 b_2 - c_1 + c_2 + 0.5 k_1 - \\ & 0.625 k_2) (2 + 2 e + 1. \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - \\ & 0.5 k_1 + 0.25 k_2) + 2.25 (e + 0. k_1 - 0.25 k_2) \\ & (2 + 2 e + 1. \bar{y} - 0.5 a_2 + b_1 + c_1 - c_2 - 0.5 k_1 + 0.25 k_2) + \\ & 2.25 (1 + e - 4. \bar{y} + 0.5 a_2 - b_1 - c_1 + c_2 + 0.5 k_1 - 0.25 k_2) \\ & (2 e + 0. k_1 + 0.25 k_2) + \\ & 1.5 (6.2957 + 0.5 \bar{y} + 0.5 a_2 - b_1 + 1.5 b_2 - c_1 + c_2 + \\ & 0.5 k_1 - 0.625 k_2) (-2 + 2 e - b_2 + 0. k_1 + 0.25 k_2)) z_2) = 0 \end{aligned}$$