$$
\begin{aligned}
\text{Maximize} \quad & c_1 x_4 x_7 - c_2 x_1 - c_3 x_2 - c_4 x_3 - c_5 x_5 \\
\text{Subject to:} \quad & \left[x_1(1.12 + 0.13167 x_8 - 0.00667 x_8^2)\right] - d_{4_l} x_4 \geq 0 \\
& -\left[x_1(1.12 + 0.13167 x_8 - 0.00667 x_8^2)\right] + d_{4_u} x_4 \geq 0 \\
& \left[86.35 + 1.098 x_8 - 0.038 x_8^2 + 0.325(x_6 - 89)\right] - d_{7_l} x_7 \geq 0 \\
& -\left[86.35 + 1.098 x_8 - 0.038 x_8^2 + 0.325(x_6 - 89)\right] + d_{7_u} x_7 \geq 0 \\
& \left[35.82 - 0.222 x_{10}\right] - d_{9_l} x_9 \geq 0 \\
& -\left[35.82 - 0.222 x_{10}\right] + d_{9_u} x_9 \geq 0 \\
& \left[-133 + 3 x_7\right] - d_{10_l} x_{10} \geq 0 \\
& -\left[-133 + 3 x_7\right] + d_{10_l} x_{10} \geq 0 \\
& 1.22 x_4 - x_1 - x_5 = 0 \\
& \frac{93000 x_3}{x_3 x_9 + 1000 x_3} - x_6 = 0 \\
& \frac{x_2 + x_5}{x_1} - x_8 = 0 \\
& x_i^l \leq x_i \leq x_i^u \quad \text{j} = 1,..., 10
\end{aligned}
$$