

$$\frac{d[E.coli]}{dt} = g_{E.coli} \times [E.coli] \frac{R_{MazF}^2}{R_{MazF}^2 + MazF^2} - f \times [E.coli] \quad (1)$$

$$\frac{d[C8]}{dt} = S_{C8} \times [E.coli] - d_{C8} \times [C8] - f \times [C8] \quad (2)$$

$$\frac{d[iP]}{dt} = S_{iP} \times N_{EA.hy926} \times [C8] - d_{iP} \times [iP] - f \times iP \quad (3)$$

$$\frac{d[MazF]}{dt} = S_{MazF} \times [iP] - d_{MazF} \times [MazF] \quad (4)$$