



$$\frac{d[A]}{dt} = \Delta \left( \frac{(k_a + \rho x^2)}{1 + x^2 + \sigma y^2} \right) - x$$

$$\frac{d[B]}{dt} = \Delta \left( \frac{k_b + \rho x^2}{1 + x^2} \right) - y$$