

Isolation method

Assuming that the tabulated data has the form

Rate	Species A	Species B
R_1	$[A_1]$	$[B_1]$
R_2	$[A_2]$	$[B_2]$
R_3	$[A_3]$	$[B_3]$
....

These data will be useful for the isolation method provided that B is held constant while A is varied and then A is held constant while B is varied.

Isolation method



$$R_1 = k[A_1]^a[B_1]^b$$

$$R_2 = k[A_2]^a[B_2]^b$$

$$\frac{R_1}{R_2} = \frac{k[A_1]^a[B_1]^b}{k[A_2]^a[B_2]^b}$$

If B is held constant then

$$\frac{R_1}{R_2} = \left(\frac{[A_1]}{[A_2]}\right)^a$$

$$\ln\left(\frac{R_1}{R_2}\right) = a \ln\left(\frac{[A_1]}{[A_2]}\right)$$