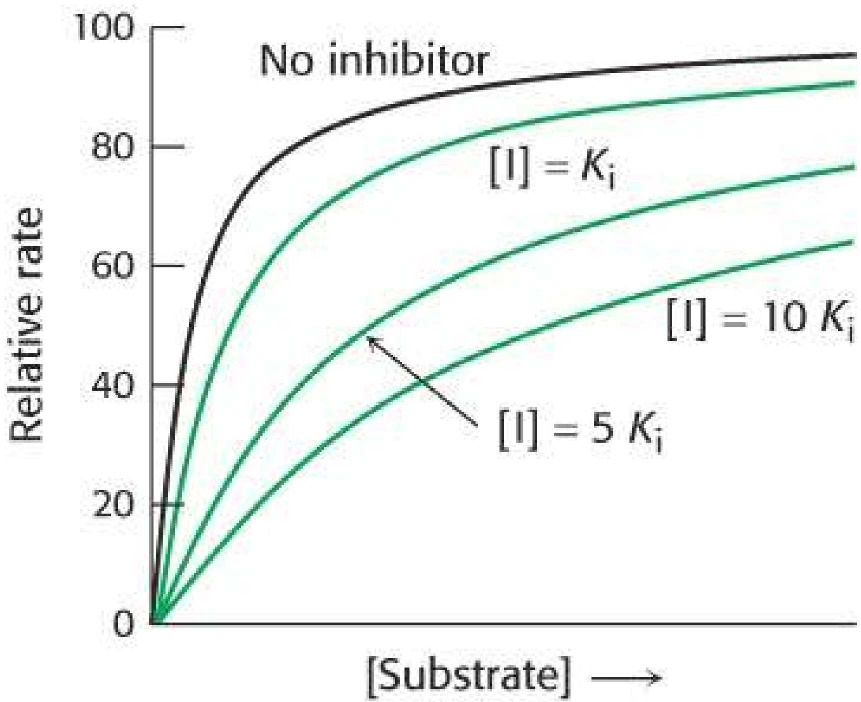
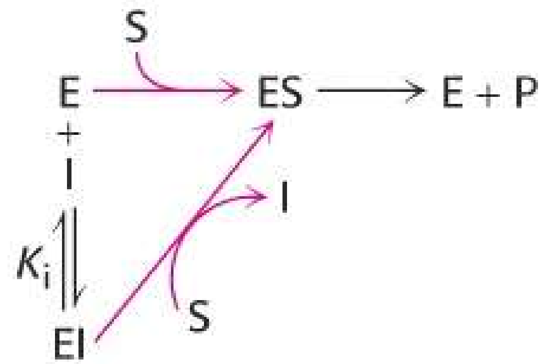
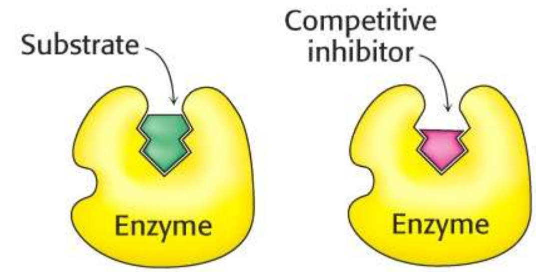
Forms of inhibition: Competitive







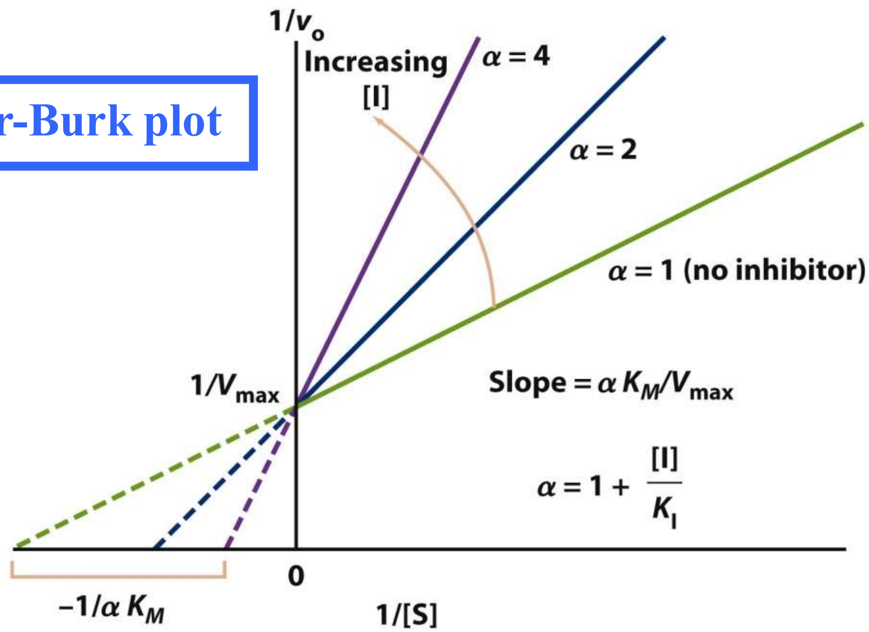
$$v_o = \frac{V_{max}[S]}{\alpha K_M + [S]}$$

Where: $\alpha = \left(1 + \frac{[I]}{K_I}\right)$

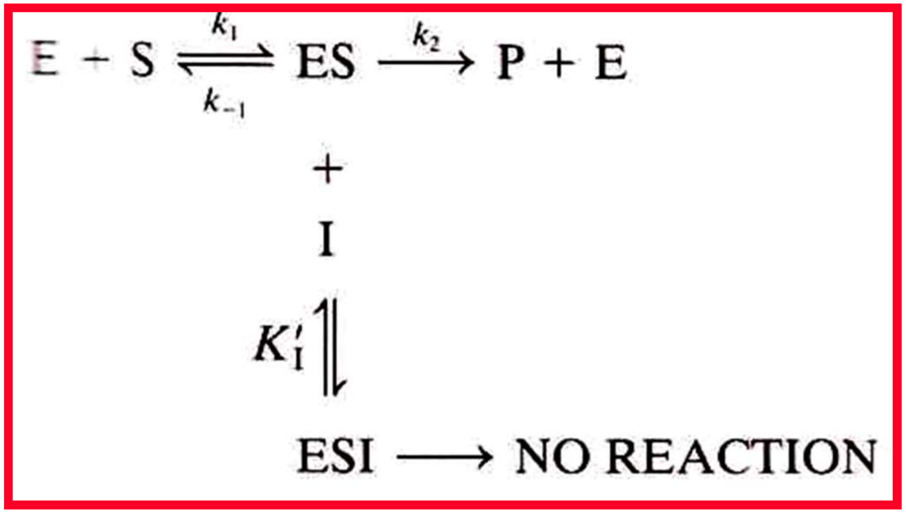
Can be linearized:

$$\frac{1}{v_o} = \left(\frac{\alpha K_M}{V_{max}}\right)\frac{1}{[S]} + \frac{1}{V_{max}}$$

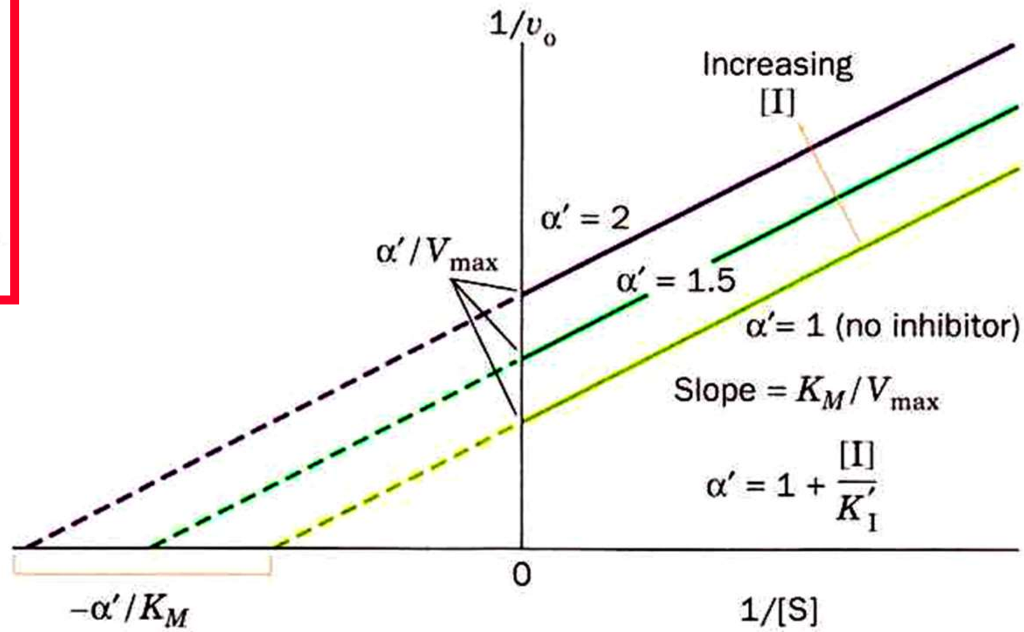
Lineweaver-Burk plot



Forms of inhibition: Uncompetitive

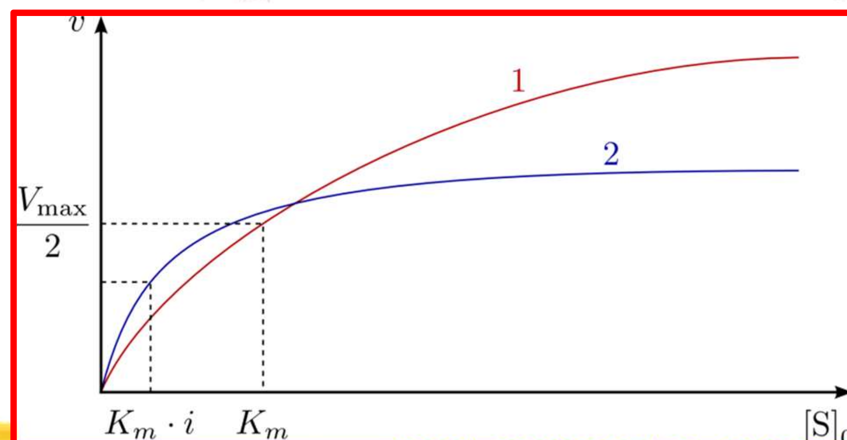


$$\frac{1}{v_o} = \left(\frac{K_M}{V_{max}}\right)\frac{1}{[S]} + \frac{\alpha'}{V_{max}}$$

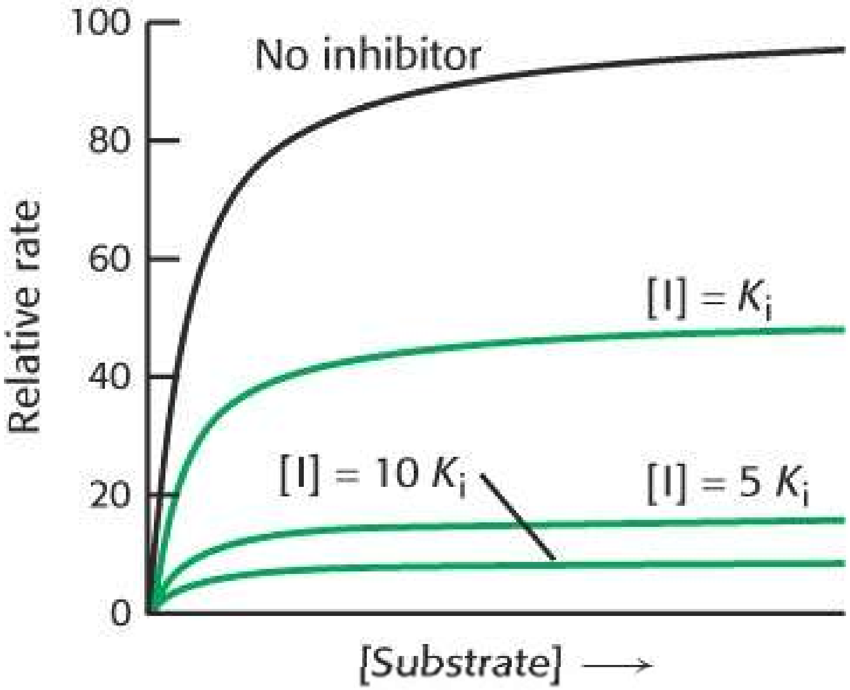


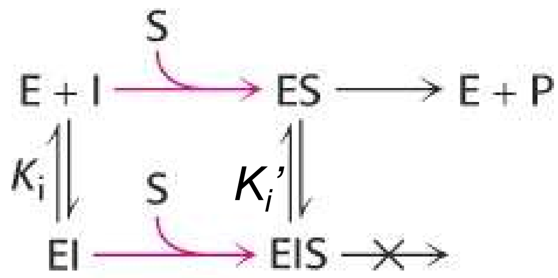
$\Rightarrow$
$$v_o = \frac{V_{max}[S]}{K_M + \alpha'[S]}$$

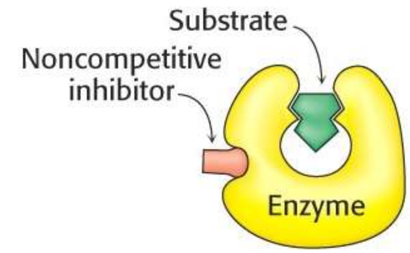
$$\alpha' = 1 + \frac{[I]}{K_I'}$$



Forms of inhibition: Mixed (non-competitive)







$$\Rightarrow \boxed{v_o = \frac{V_{max}[S]}{\alpha K_M + \alpha'[S]}}$$

$$\boxed{\frac{1}{v_o} = \left(\frac{\alpha K_M}{V_{max}}\right)\frac{1}{[S]} + \frac{\alpha'}{V_{max}}}$$