

### Kinetic Parameters

$K_M$	M	$(k_{-1} + k_{cat})/k_1$
$k_{cat}$	$s^{-1}$	$v_0 = k_{cat}[E]_T$
$k_{cat}/K_M$	$M^{-1}s^{-1}$	at $[S] \gg K_M$ : $v_0 = k_{cat}/K_M [S][E]_T$

### Inhibition

#### Michaelis-Menten

$v_0$  vs.  $[S]$

#### Hanes-Woolf

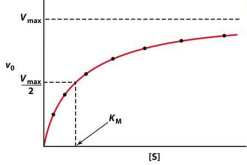
$S/v_0$  vs.  $[S]$

$m = 1/v_{max}$   
 $c = K_M/v_{max}$   
 $x\text{-int} = K_M$

#### Plot

#### Plot

#### $K_M$ and $V_{max}$



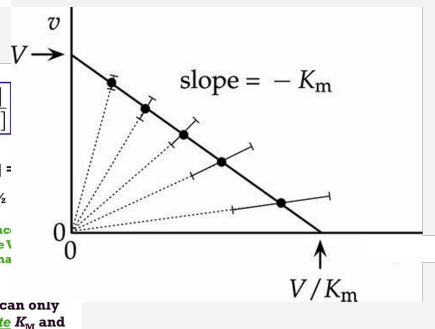
$$v_0 = \frac{V_{max} [S]}{K_M + [S]}$$

When  $[S] = K_M$   
 $v_0 = \frac{1}{2} V_{max}$

$K_M$  is conc of S where  $v$  half- $v_{max}$

But... can only estimate  $K_M$  and  $V_{max}$  in this way

$$V_0 = \frac{V_{max} [S]}{K_M + [S]} = \frac{V_{max} [S]}{[S] + [S]} = \frac{V_{max} [S]}{2[S]} = \frac{V_{max}}{2}$$



#### Lineweaver-Burk

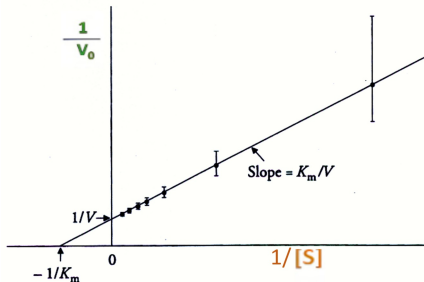
$1/v_0$  vs.  $1/[S]$

$m = K_M/v_{max}$

$c = 1/v_{max}$

$x\text{-int} = -1/K_M$

#### Plot



#### Eadie-Hofstee

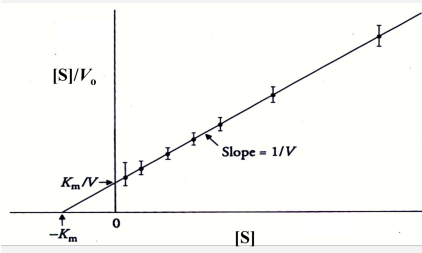
$v_0$  vs.  $v_0/[S]$

$$m = -K_M$$

$$c = v_{\max}$$

$$x\text{-int} = v_{\max}/K_M$$

Plot



C

By **Juwairiya** (Juwairiya)

[cheatography.com/juwairiya/](https://cheatography.com/juwairiya/)

Not published yet.

Last updated 12th May, 2026.

Page 2 of 2.

Sponsored by **Readable.com**

Measure your website readability!

<https://readable.com>