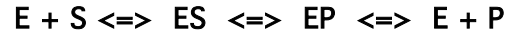


Kinetics of Enzymes Following the Michaelis-Menten Model

Determination of Parameters K_m and v_{max}

Michaelis-Menten Mechanism



Michaelis-Menten Equation

$$v_0/v_{max} = \frac{[S]_0}{(K_M + [S]_0)}$$

Lineweaver-Burk Equation

$$1/v_0 = (K_M/v_{max})(1/[S]_0) + 1/v_{max}$$

velocity = $v = k[ES]$

v_{max} is when all enzyme is bonded to substrate - all ES.

K_M is $[S]$ when velocity equals $1/2 v_{max}$.

Table 1. Data from Michaelis-Menten Kinetic Experiments on Enzyme

$[S]_0$ (mM)	v_0 (μ moles/min)	$1/[S]_0$	$1/v_0$
0.00	0.000		
2.70	0.123	0.370	8.13
5.40	0.179	0.185	5.59
8.09	0.210	0.124	4.76
10.80	0.226	0.093	4.42
36.00	0.280		
100.00	0.300		

