

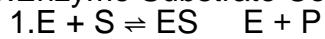
## Enzyme Kinetics

### I. Enzyme Kinetics

#### A. Saturation kinetics

- a. First order kinetics
- b. Zero order kinetics

#### B. Enzyme Substrate Complex



- a. rates ( $\hat{A}$ )

#### 2. Evidence for ES complex

#### C. Compare & Contrast

1. Sames
2. Differences
3. Effects of Huge S
4. Initial velocity =  $V_0$

### II. Mickalis-Menton Equation

#### 1. Variables

- a.  $V_{max}$
- b.  $V_0$
- c.  $K_m$

#### A. Finding $K_m$

#### B. Assumptions

#### C. Using the Affinity Constant

##### 1. Example

#### D. General rate constant = $k_{cat}$

1.  $k_{cat}$  = turn over number

### III. Lineweaver-Burk plot

#### A. Derivation

#### B. Plot = $1/v_0$ versus $1/[S]$

1. = double reciprocal plot