**Summary of the Kinetics for Reactions**

**That Are Zero, First, or Second Order in [A]**

Zero Order First Order Second Order

**Rate Law:** Rate = k Rate = k[A] Rate = k[A]2

**Integrated Rate Law:** [A] = -kt + [A]0 ln[A] = -kt + ln [A]0 1/[A] = kt + 1 / [A]0

**Plot Needed to Give** [A] versus t ln[A] versus t 1 / [A] versus t

**A Straight Line:**

**Relationship of Rate**

**Constant to the Slope** Slope = - k Slope = - k Slope = k

**of Straight Line:**

**Half Life:**  t1/2 = [A]0 / 2k t1/2 = **.**693 / k t1/2 = 1 / k [A]0