

## Study Guide for Exam 1

### Chapters 1, 2, 3 and 4

Understanding the Periodic Table

Ionic vs. Covalent Bonds

Polarity

Lewis Dot Structures

Shapes of Atomic Orbitals

VSEPR Theory

Lewis Acid/Base Theory (Electrophile vs. Nucleophile)

Mechanism for the Halogenation of Methane

Understanding Mechanisms

The Hammond Postulate

Alkanes,  $C_nH_{2n+2}$

Newman Projections

Nomenclature of Alkanes

Synthesis of Alkanes

    Reduction of Alkyl Halides

    Corey-House

Reactions of Alkanes

    Halogenation

Reactive Intermediates

Chirality

Enantiomers, Diastereomers

Fischer projections

The R,S Nomenclature