

Study Guide For Third midterm (Chapter 8, 9)

Chapter 8

Chemical bonds: covalent, ionic, and metallic;
Polar covalent

Valence electron configs

Lewis structures which obey octet

Improved Lewis structures with expanded octet

Resonance structures

Differentiate between formal charge and
oxidation state

Lewis structures for simple organics

Lewis structures for expanded octets

Molecular geometries as distinct from electron-
pair geometries

Bond properties (length, bond order, strength)

Reaction enthalpies and bond energies

Bond polarity and electronegativity

Molecular polarity (bond polarity meets
molecular geometry)

Chapter 9

Valence bond theory

Relate e-pair geometry to hybridized orbitals

Pi-bonds