

Topics included on the 1st semester final exam

Wavelength, energy, energy level transitions (Planck's and de Broglie, Rydberg calculations)

Emission spectrum diagram (PES) & first ionization energy

Periodic trends: atomic radius, ionic radius, first ionization energy, electronegativity,

Draw Lewis diagrams & shapes

Hybridizations

Polar/nonpolar

Sigma, pi bonds

Formal charge to determine favorable Lewis structures

Hydrate lab: determining the number of moles of water in a compound

Types of reactions: precipitate reactions & redox (acid/base was intro only – 2nd semester topic)

Voltaic cell, determine identity of unknown metal given E values

Solutions: molarity, molality, mass percent, mole fraction

IMFs

Equilibrium values

K_c and K_p calculations from equilibrium