

This is exactly what you need to focus on for test 1.
Practice, review, and understand everything on this list.

Names

- Aromatic nomenclature rules so that you can determine the names and structures of molecules

Chapter 14 (Conj Dienes)

- Mechanism of 1,2 and 1,4 additions
- How kinetic and thermodynamic controls work
- How to determine the Diels-Alder product
- Requirements for dienophiles and dienes in Diels-Alder reactions
- Electronic transitions of conjugated dienes in terms of molecular orbitals
- Overall appearance of UV-Vis spectra
- Relationship between conjugation, ΔE , and λ_{\max}
- Isomerization of rhodopsin

Chapter 15 (Aromaticity)

- Bonding, bond lengths, and bond angles for benzene
- Resonance and molecular orbitals in aromatic molecules
- How hybridized orbital sets are arranged for atoms in aromatic molecules
- Aromatic ions and heterocycles

Chapter 16 (Electrophilic Aromatic Substitution)

- Basic mechanism of halogenation, including the cationic intermediates
- Nitration and formation of nitronium cation
- Sulfonation and formation of intermediate cation
- Friedel-Crafts alkylation / acylation, including the limitations
- Electron withdrawing/donating (induction/resonance) effects in disubstitution, including intermediate structures and their relative stabilities
- Multi-step synthesis problems