

CHE 173

Winter, 2005

Specific Objectives for Quiz 4

1. Know the difference between aromatic and aliphatic compounds in terms of their relative stabilities/reactivities.
2. Understand what makes a compound aromatic and be able to determine whether a compound is aromatic, anti-aromatic, or not aromatic.
3. Be able to name benzene derivatives using IUPAC rules and know the common names of the benzene derivatives shown in Table 11.1.
4. Be able to predict the products of and show mechanisms (electron flow shown by curved arrows) for the following reactions:
 - (a) Birch reduction of aromatic systems
 - (b) Free radical halogenation of alkyl benzenes
 - (c) Oxidation of alkyl benzenes (no mechanism here, just predict the products)
 - (d) Nucleophilic substitution reactions (S_N2 or S_N1) vs. elimination reactions (E2 or E1) of benzylic halides.
5. Be able to apply the above reactions (as well as other reactions you've already learned) in multi-step synthesis problems.