

3. Draw the most stable (or least destabilized) cation intermediates which occur during the bromination of the following reactants: toluene, aniline (show resonance), and nitrobenzene. Explain the stabilities in terms of electronic effects. (Refer to Figures 16.13 – 16.16 and Table 16.2)

4. Show all reactants and major products involved with the sulfonation of both 3-bromophenol and 4-bromophenol. Include the formation of the electrophile (E^+), and the product names as well. (Use benzenesulfonic acid as the parent name.)

5. Propose a synthesis route to create m-bromoethylbenzene from benzene, bromine, organic chlorides, inorganic reagents, and catalysts. Show all intermediates. (See synthesis problems at the end of chapter 16.)