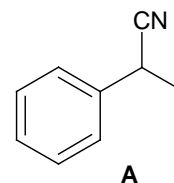


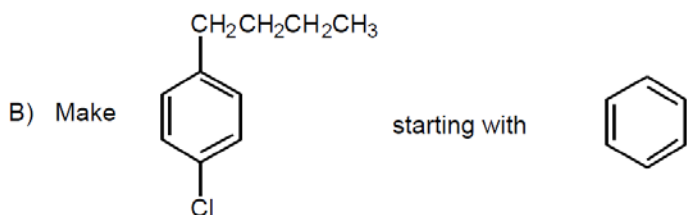
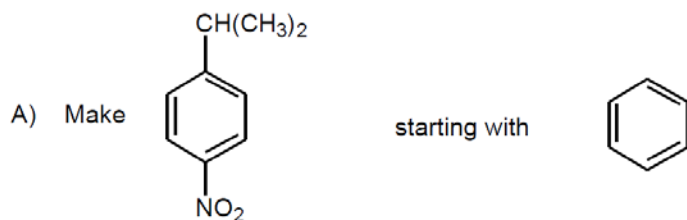
Homework/Problem Set
Chapter 15 (Reactions of Aromatic Compounds)

1. Write the **most unstable** contributing (resonance) structure for the Friedel-Crafts alkylation of nitrobenzene with $\text{Me}_2\text{CHCl}/\text{AlCl}_3$. Write also a major product which will be formed.

2. Starting from benzene, outline the synthesis of the following compound **A**.



3. Starting with the indicated compounds and using any reagents (chemicals) and reactions we have studied, show how you could synthesize (make) the products. (More than one step would be required, and it is easier to work one step at a time back from product).



4. Write a mechanism that accounts for the formation of the salicylic acid (*ortho*-hydroxybenzoic acid) from phenol and CO_2/NaOH . (**Note:** 2-acetoxybenzoic acid is known as widely used medication ASPIRIN)

5. The product **F** of the following reaction sequence would be

