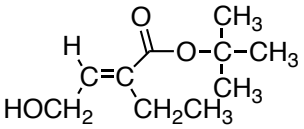
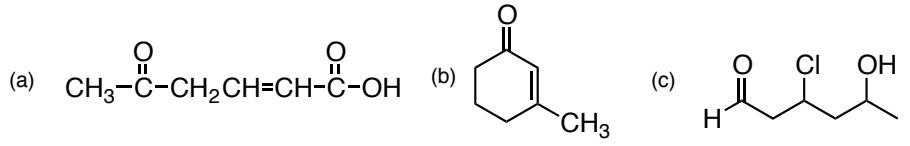
Long Island University, Department of Chemistry

Chem. 122, Sect 007, Exam 2, 150 pts, Spring, 2012

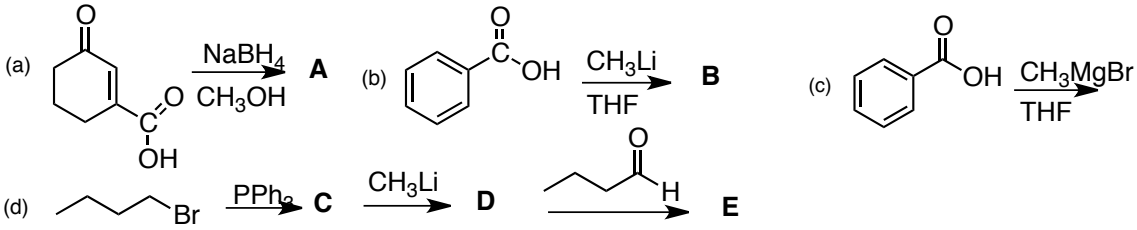
1. For the following molecule, predict (a) the number of carbon signals (b) the number of proton signals and their multiplicities and (c) give three significant IR absorptions and indicate what functional group each absorption each corresponds to. (15 pts)



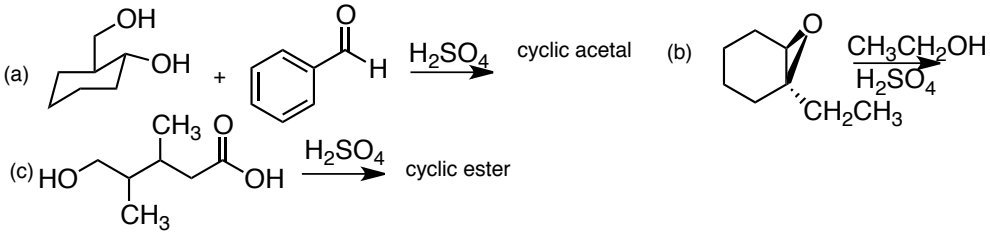
2. Name the following molecules. (15 pts)



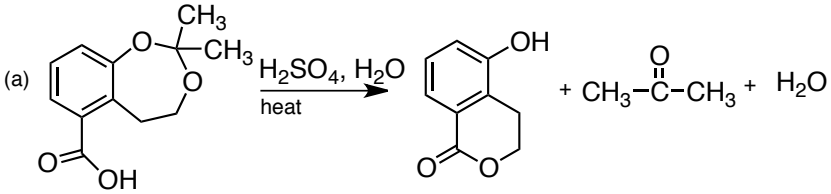
3. Give the product of the following reactions. It is not necessary to show the reaction mechanism but do show all intermediates formed. (30 pts, 5 pts each)



4. Give the product of the following reactions and in each case show the complete reaction mechanism, giving al of the steps. (45 pts, 15 pts each)



5. Show how the following transformation occurs, giving all of the steps of the mechanisms. No other reagents are needed except that given. (15 pts)



6. Synthesize **two** of the following **three** molecules from the starting materials given on the left as shown. Do all **three** for extra credit. (30 pts)