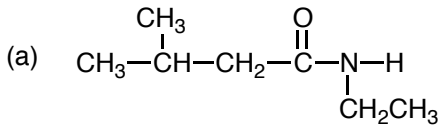
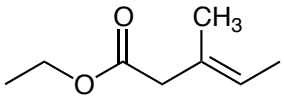
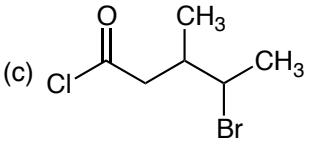
Long Island University, Department of Chemistry

Chem. 122, Sect 009, Exam 3, 100 pts, Spring, 2012

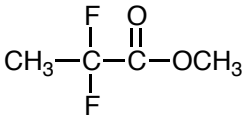
1. Name the following compounds. (15 pts)

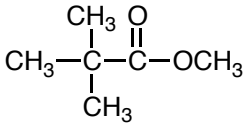
(a) 

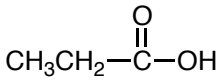
(b) 

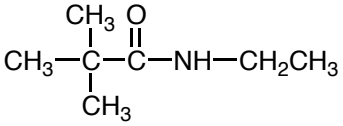
(c) 

2. Which molecule would be (a) **MOST** (b) **LEAST** reactive to basic hydrolysis in $NaOH/H_2O$? In each case explain your answer and show the complete reaction and reaction mechanism for each molecule you choose. (15 pts)

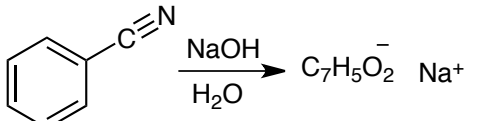
A 

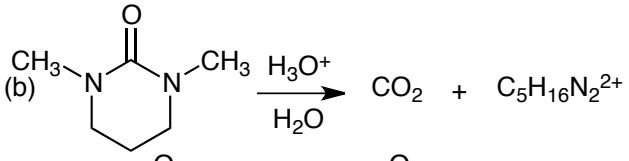
B 

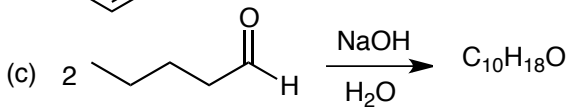
C 

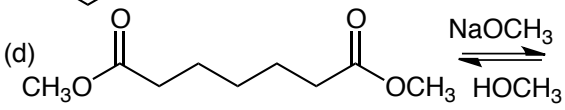
D 

3. Give the product of the following reactions and in each case show the complete reaction mechanism by which it is formed. (40 pts)

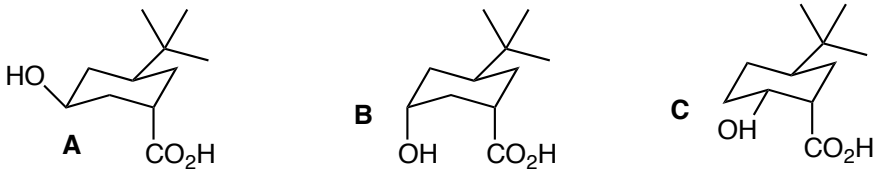
(a) 

(b) 

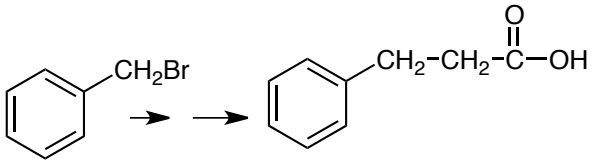
(c) 

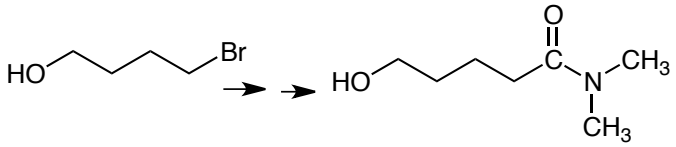
(d) 

4. One of the following molecules can undergo an intramolecular lactonization (ester formation) when treated with a catalytic amount of H_2SO_4. Indicate which molecule and show the reaction that occurs, giving the full reaction mechanism. (10 pts)



5. Synthesize **TWO** of the molecules shown on the right from the starting materials given on the left. Do all three for extra credit. (20 pts).

(a) 

b) 

(c)