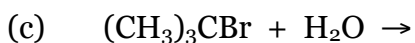
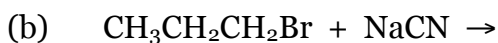
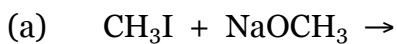


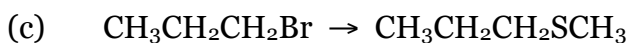
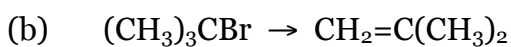
Recitation Week 9

3/13/13

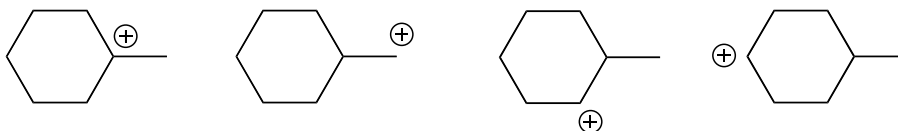
1. Give the products of these substitution reactions:



2. What reagents would you need to do the following reactions?

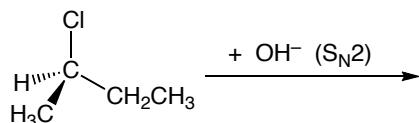


3. What is the relative stability of these carbocations?

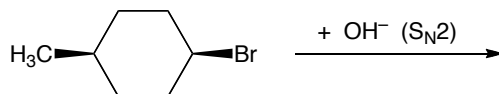


4. Give the products of these reactions, including their stereochemistry.

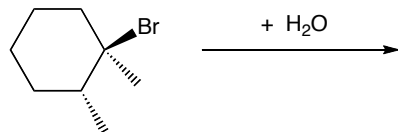
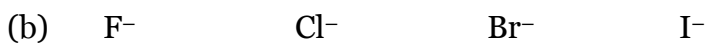
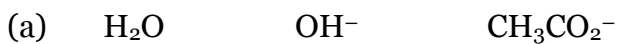
(a)



(b)

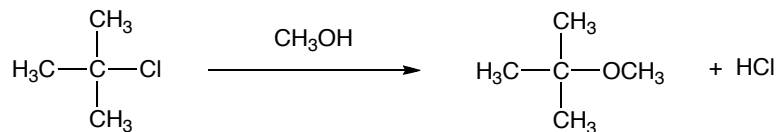


(c)

5. Rank these nucleophiles in order of increasing strength for $\text{S}_{\text{N}}2$ reactions in DMF:

6. What type of reaction is each of these? In each case, draw the mechanism:

(a)



7. Sketch a reaction coordinate diagram for a two-step exergonic reaction, in which the first step is rate-determining. Indicate the locations of any transition state(s) and intermediate(s), as well as ΔG_{rxn} and the activation energy (ΔG^\ddagger).

