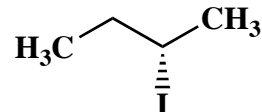
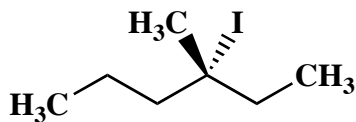
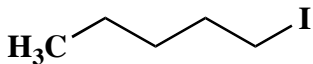


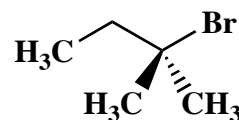
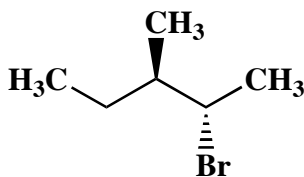
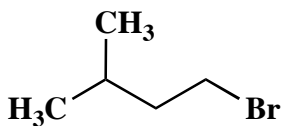
Problem Set 8

1. Choose the appropriate compound for both of the following questions. For each question, state in detail the reason(s) for the difference in reactivity.

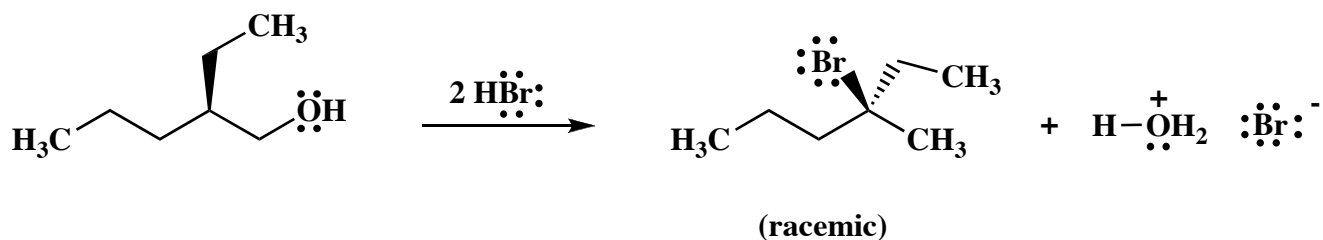
A. Which of the following compounds is the best S_N2 substrate?



B. Which of the following compounds is the best S_N1 substrate?



2. Draw the mechanism of the following reaction, using the curved-arrow notation to indicate the reorganization of electron density. Show all intermediates, lone pairs, nonzero formal charges, countercharges, and reversibility or nonreversibility. Finally, state in detail why a racemic mixture is obtained, in spite of the fact that the starting material is enantiomerically pure.



3. Draw the mechanism of the following reaction, using the curved-arrow notation to indicate the reorganization of electron density. Show all lone pairs, nonzero formal charges, countercharges, and reversibility or nonreversibility. State in detail why the observed stereochemical result is obtained.

