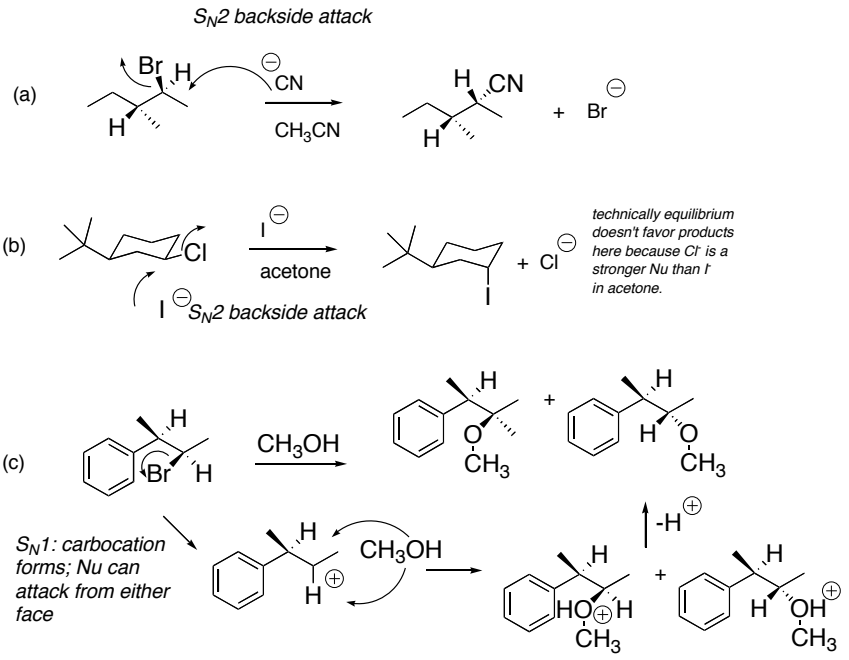
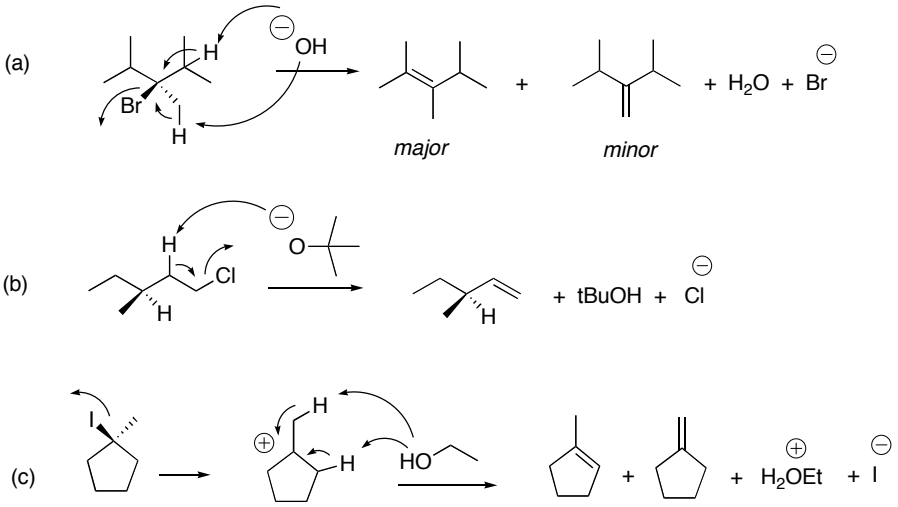
CHE 171 **Name: _____**
Fall, 2005 **Section: 101 102 103**
Quiz 6 Answer Key **(*circle one*)**

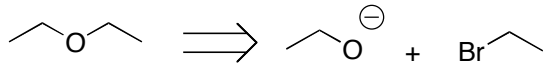
1. Show a mechanism and product(s) for the following substitution reactions (be sure to explicitly show stereochemistry where applicable): (15 pts)

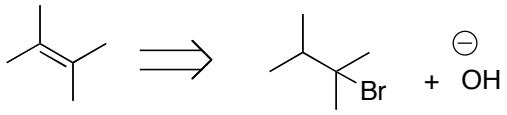


2. Show a mechanism and product(s) for the following elimination reactions; if there is more than one organic product, specify which is the major and which is/are minor products: (15 pts)



3. Devise a synthesis of each compound below from an alkyl halide using any other organic or inorganic reagents. (10 pts)

(a) 

(b) 

4. When (2*S*), (3*S*)-2-bromo-3-methylhexane is treated with hydroxide ion, an elimination reaction occurs to give one alkene product exclusively. Show a mechanism for this reaction, including the transition state, that explains the product selectivity. How would you classify the alkene product? (10 pts)