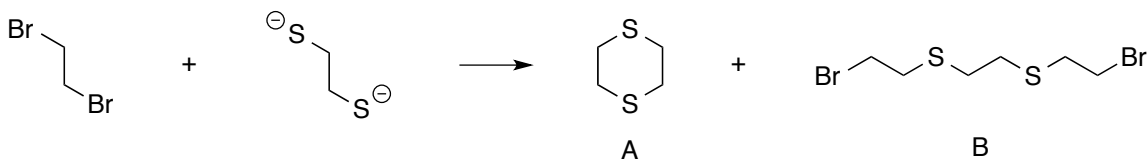
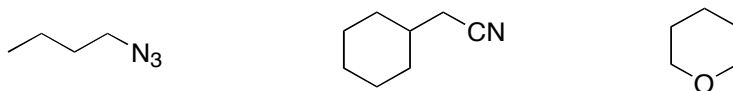


Practice Problems for Chapters 7 and 8. To be completed after completion of the problems in the text.

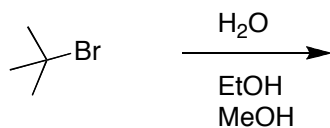
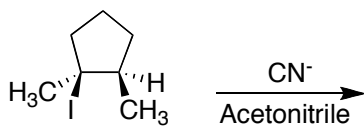
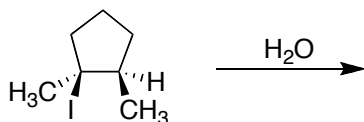
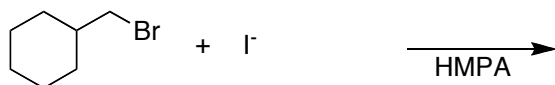
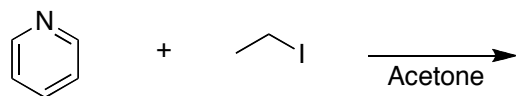
- 1) Using arrows, explain how the products below are formed. How might you enhance the yield of B?



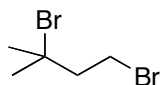
- 2) Devise S_N2 reactions that would give the following products starting with your choice of alkyl halides.



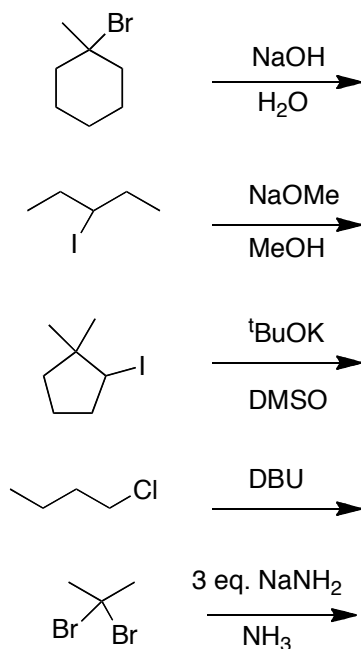
- 3) Predict the **major substitution product** of the following reactions and determine if they are formed from S_N1 or S_N2 pathways.



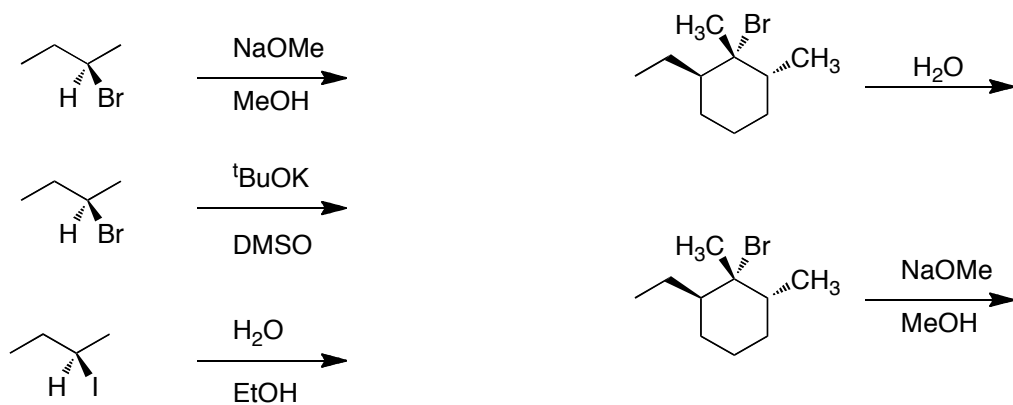
- 4) For the following dibromo alkane determine which position will react faster (be more reactive) under $\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$ conditions. Explain your answer.



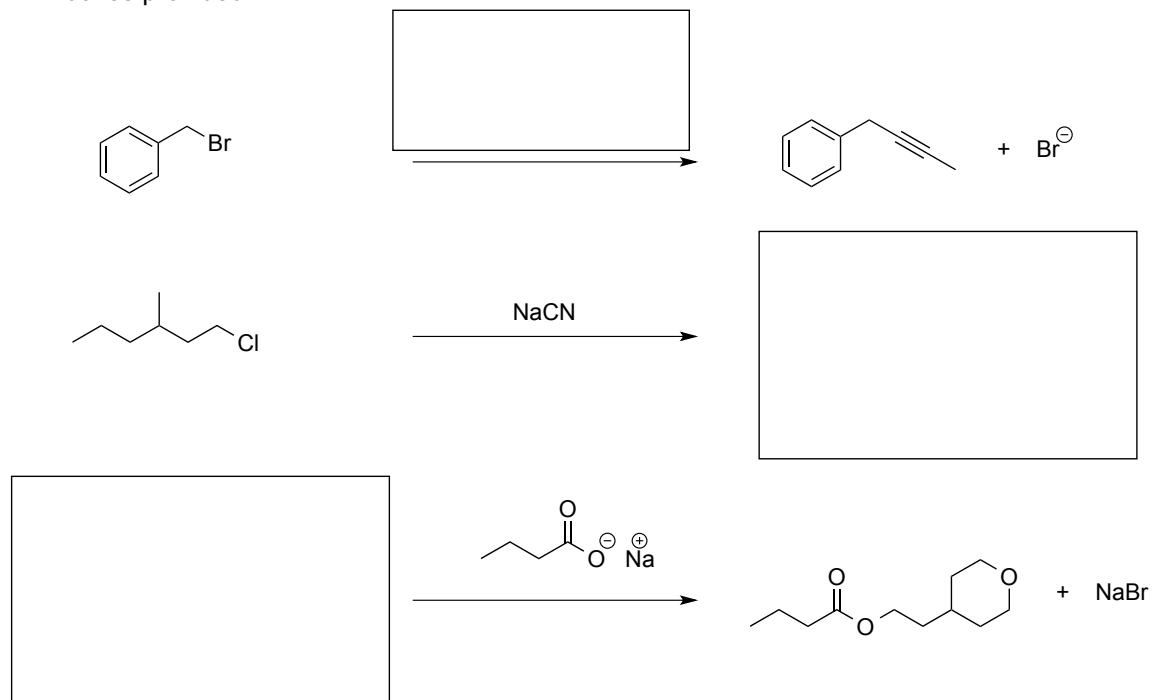
- 5) Predict **the major elimination product** of the following reactions and indicate if they are from $\text{E}1$ or $\text{E}2$ pathways.



6) Predict the major product in each of the following reactions and indicate if it came from an S_N1 , S_N2 , E1, or E2 reaction.



- 7) For each of the following reactions, provide the appropriate reagents or products in the boxes provided.



- 8) Answer the following questions for the reaction coordinate diagram shown below.

A. Give the letter(s) corresponding to the transition state(s). _____

B. Give the letter(s) corresponding to the reactive intermediate(s). _____

C. **Step 1** or **Step 2** is the rate determining step. (circle one)

D. Step 1 is **endothermic** or **exothermic**. (circle one)

E. Step 2 is **endothermic** or **exothermic**. (circle one)

F. The overall reaction is **endothermic** or **exothermic**. (circle one)

