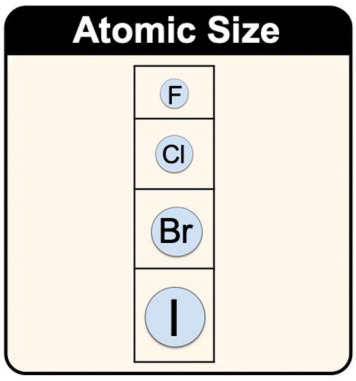
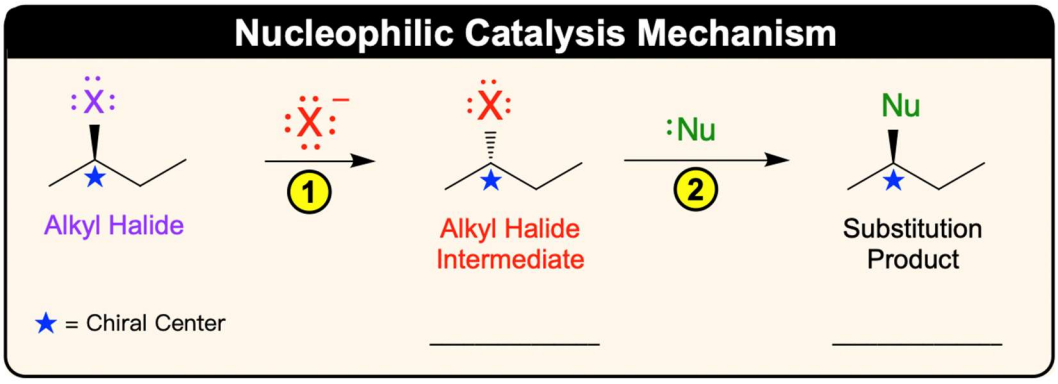
CONCEPT: NUCLEOPHILIC CATALYSIS

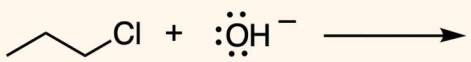
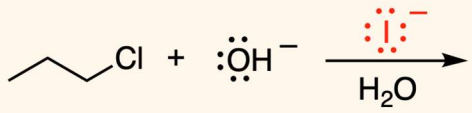
- In Orgo 1, we learned double S_N2 caused _____ of R/S configurations, but it also serves as a *nucleophilic catalyst*.
  - □ **Nucleophilic catalyst**: displaces leaving group with a _____ nucleophile/leaving group.



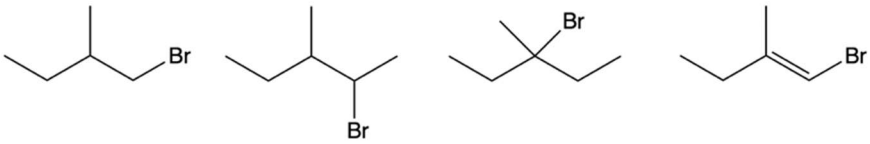


- Displacing the original halogen with a better nucleophile/leaving group also causes an ___ in the rate of reaction.

Uncatalyzed vs Catalyzed Reactions

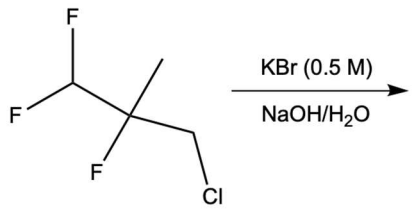
Reaction	Rate
Uncatalyzed 	6.0×10 s^{-1}
Catalyzed 	3.7×10 s^{-1}

EXAMPLE: Which of the following will undergo an S_N2 reaction most readily when reacting with sodium hydroxide and a trace amount of iodide?

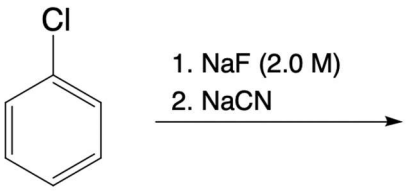


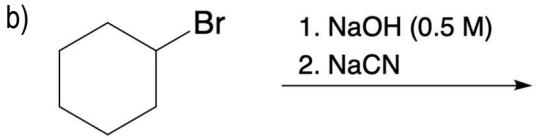
CONCEPT: NUCLEOPHILIC CATALYSIS

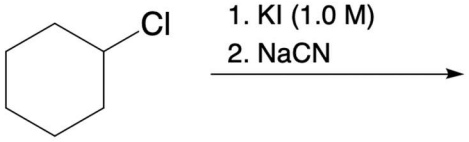
PRACTICE: Predict the final product from the chemical steps provided.

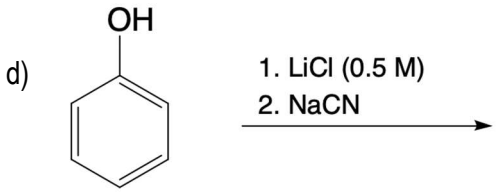


PRACTICE:

a) 

b) 

c) 

d) 

PRACTICE: Using 3-methyl-1-butene as a starting material, predict the final product based on the list of reagents given?