

Organic Chemistry 2342-Quiz 9

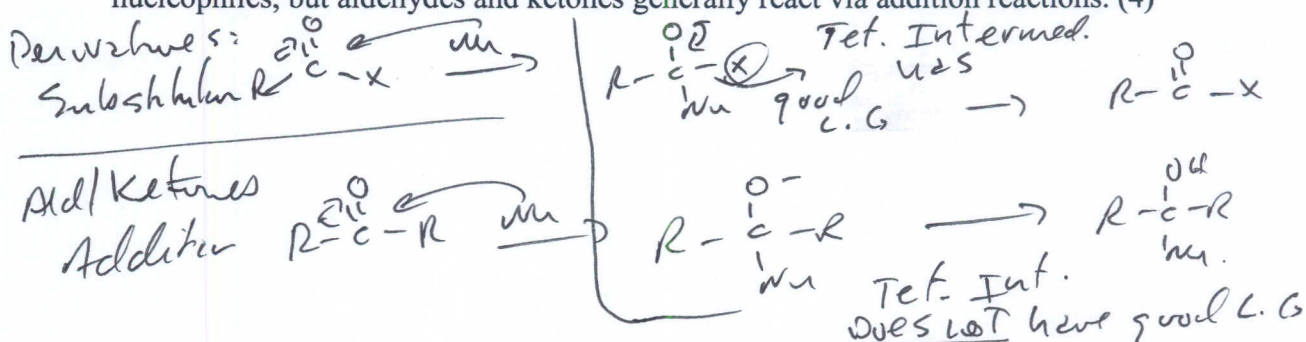
1. Which are more reactive towards attack by nucleophiles, aldehydes or ketones?

Explain. (4) Aldehydes are more reactive than ketones because:

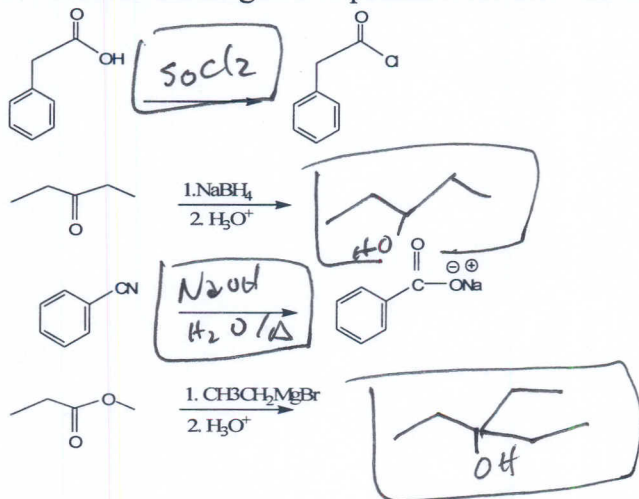
① There is less steric hindrance during the nucleophile attack. $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$ vs $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}$
 Large small vs Large Large.

2. There is greater positive charge on the $\text{C}=\text{O}$ of ald. because they only have 1 electron donating group while ketones have 2.

2. Explain why carboxylic acid derivatives generally undergo substitution reactions with nucleophiles, but aldehydes and ketones generally react via addition reactions. (4)



3. Provide the reagents or products for the following reactions. (8)



4. Provide a mechanism for the following transformation. (4)

