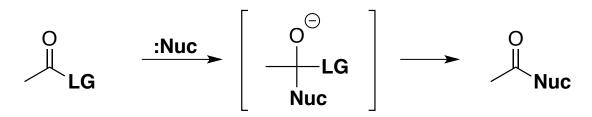
Chapter 21, Carboxylic Acid Derivatives

NUCLEOPHILIC ACYL SUBSTITUTION (NAS)



REACTIVITY SERIES (TOWARD NAS)

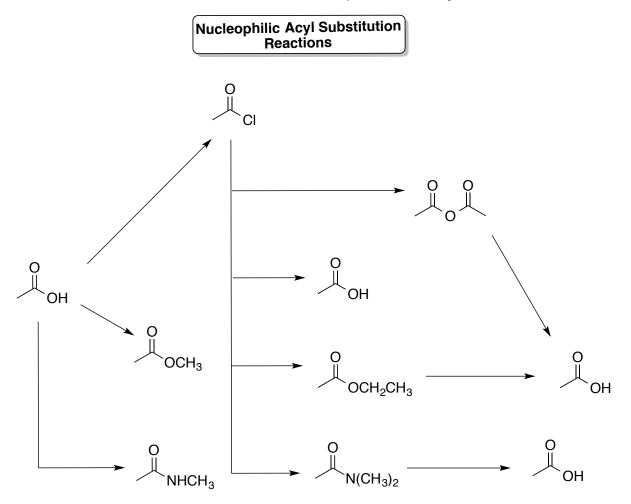
acid chloride

acid anhydride

O U OH carboxylic acid



O NR₂ amide



Fill in the reagent(s) needed to complete each transformation above.

Show the mechanism for the Fischer esterification of acetic acid into its methyl ester:

Show the mechanism for the hydrolysis of the acid chloride: