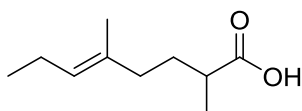


Nomenclature



2,4-dimethylhexanoic acid

Reactivity of Acid Derivatives

Reactivity

Derivative

Leaving Group

Basicity

acid
chloride

anhydride

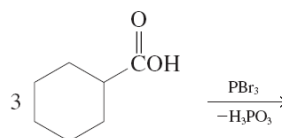
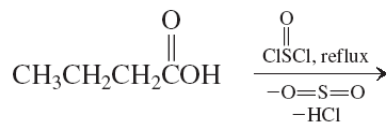
ester

amide

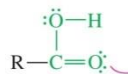
carboxylate

Carboxylic Acid Derivatives

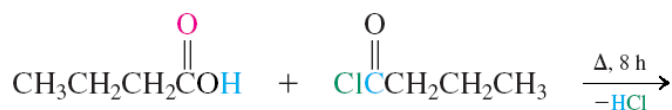
SOCl₂/PBr₃ → _____



Mechanism



Acids + alkanoyl halides → _____

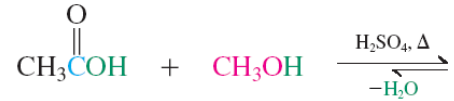
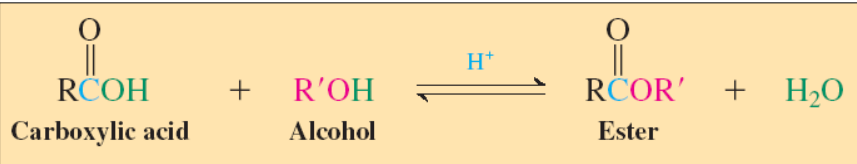


Mechanism

acid chloride

acid

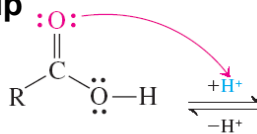
Carboxylic Acids + alcohols → esters



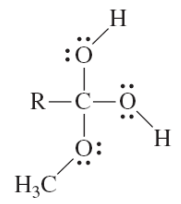
Esterifications most often use the alcohol as solvent.

Acid-catalyzed addition-elimination

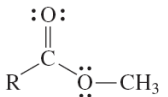
Step 1. Protonation of carboxy group



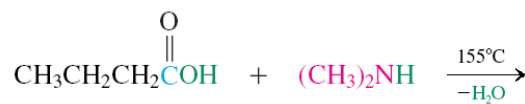
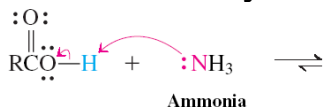
Step 2. Attack by methanol



Step 3. Elimination of Water



Amines + carboxylic acids → amides



Reaction is reversible but with heat, creates amide.

Mechanism



Predict Products

