

## Chapter 20: Functional Derivatives of Carboxylic Acids Worksheet

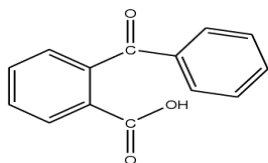
### NOMENCLATURE:

Please name the following structures:

1.  $(\text{CH}_3\text{CO})_2\text{O}$   
Acetic anhydride or Ethanoic Anhydride
2.  $\text{PhCON}_2\text{H}$   
Benzamide
3.  $\text{CH}_3\text{CO}_2\text{Ph}$   
Phenyl Acetate or Phenyl ethanoate
4.  $\text{CH}_3\text{COCl}$   
Acetyl chloride or Ethanoyl Chloride

### REACTIONS:

1. phthalic anhydride + benzene,  $\text{AlCl}_3 \rightarrow$



2. Benzoyl chloride + ethanol  $\rightarrow$  ethyl benzoate
3. propionic acid +  $\text{NH}_3 \rightarrow$  Ammonium propanoate or Ammonium propionate.  
S. A.                      S.B.
4. methyl benzoate +  $\text{CH}_3\text{CH}_2\text{O}^{18}\text{H}$ ,  $\text{H}^+ \rightarrow$

