I. Preparation of Isoamyl Acetate

ODORS: isoamyl alcohol

acetic acid

isoamyl acetate

Reaction:

\[
\text{H}_2\text{C} = \text{C} - \text{CH}_2\text{CH}_2\text{OH} + \text{HO} - \text{C} - \text{CH}_3 \xrightarrow{\text{H}_2\text{SO}_4} \text{H}_2\text{SO}_4
\]

II. Preparation of Methyl Salicylate

ODORS: methanol

salicylic acid

methyl salicylate

Reaction:

\[
\text{CH}_3\text{OH} + \text{HO} - \text{C} - \text{CH}_2\text{OH} \xrightarrow{\text{H}_2\text{SO}_4} \text{H}_2\text{SO}_4
\]

III. Preparation of Ethyl Butyrate

ODORS: ethanol

butyric acid

ethyl butyrate

Reaction:

\[
\text{CH}_3\text{CH}_2\text{OH} + \text{HO} - \text{C} - \text{CH}_2\text{CH}_2\text{CH}_3 \xrightarrow{\text{H}_2\text{SO}_4} \text{H}_2\text{SO}_4
\]
REVIEW QUESTIONS

1. Write the generic equation for the Fischer esterification reaction.

2. Describe the safe method of smelling chemicals.

3. Comment on the odors of the different kinds of reagents and products.
   - Alcohols generally smell like:
   - Acids generally smell like:
   - Esters generally smell like:

4. Why do we use the coffee pots to heat the water for the water baths instead of our Bunsen burners?

5. What is the purpose of the sulfuric acid in the reactions?