

Lab 23B - Preparation of Esters

Objectives:

1. to observe the synthesis of several esters and to identify the odor of each
2. to write the chemical equations for the formation of each ester

Pre-Lab:

1. Esters are *best known* for their _____.
2. (a) What two types of organic molecules react to form esters?

- (b) What chemical is used in this lab to cause this reaction?

3. What type of reaction is this? _____

4. How can this reaction be reversed? _____

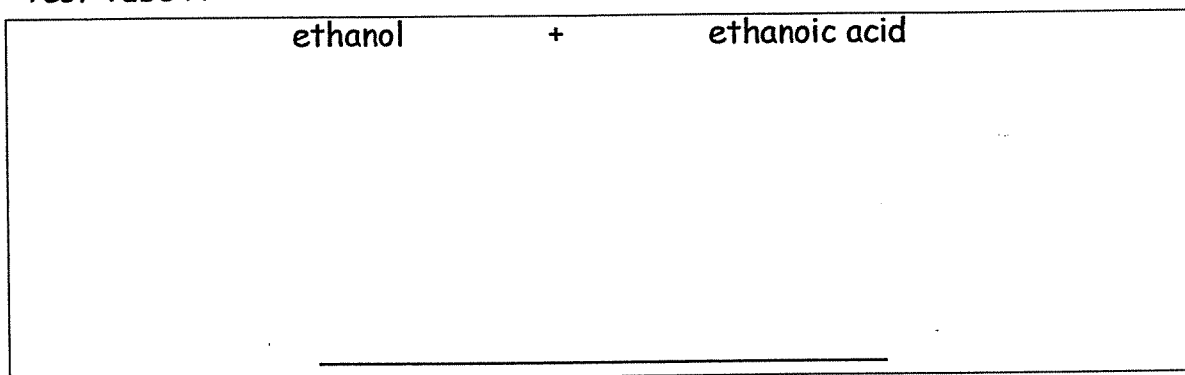
Observations:

Test Tube	Odor
A	
B	
C	
D	
E	

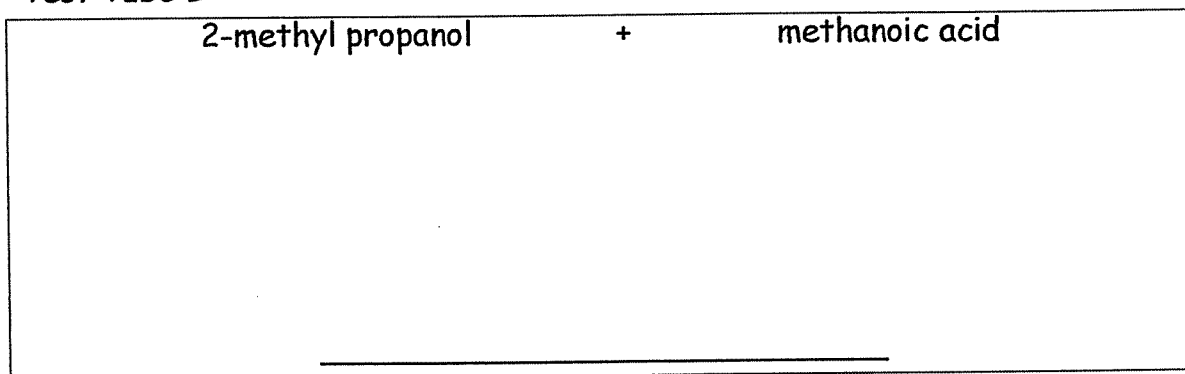
Analysis:

1. For each chemical reaction, draw both the reactants and products, then name the product.

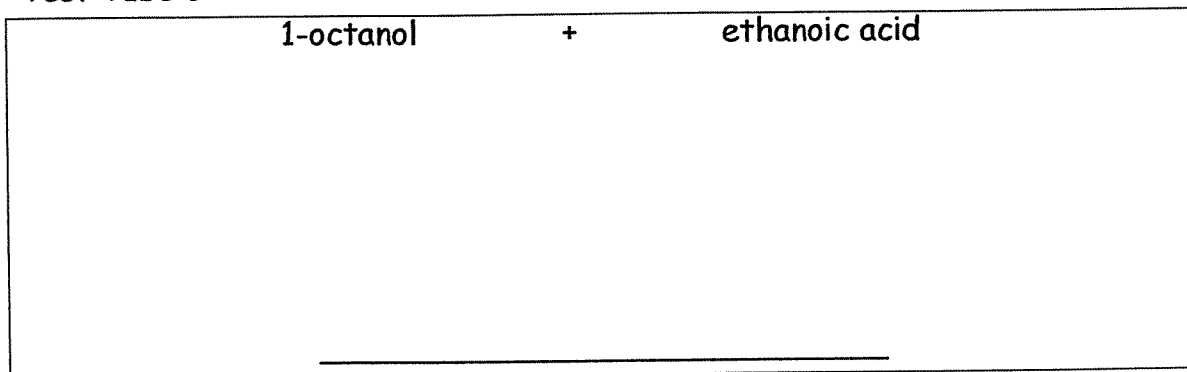
Test Tube A:



Test Tube B:



Test Tube C:



Test Tube D:

methanol	+	2-hydroxybenzoic acid
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Test Tube E:

1-pentanol	+	ethanoic acid
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3. Formic acid is the common name of ethanoic acid, which is commonly found in ants. How might ants use formic acid?

4. (a) What is the IUPAC name for acetic acid? _____

(b) Its name as a common household chemical? _____

5. What combination of alcohol and acid will form the following esters?

(a) ethyl ethanoate: _____ + _____

(b) octyl benzoate: _____ + _____

6. Methyl salicylate is also known as "oil of wintergreen". Name some commercial products you know of that contain this substance.
