

## Problem Set 17: An Introduction to Organic Functional Groups

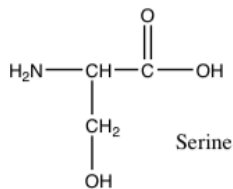
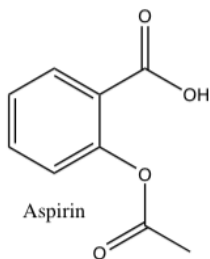
1. Which of the following functional groups contain oxygen? Circle all that apply.

- a. alcohol
- b. aldehyde
- c. amine
- d. amide
- e. alkyne

2. Draw the following molecules in line structures.

- a. 2-pentanol
- b. hexanoic acid
- c. 2-heptanone
- d. propanal
- e. pentylamine
- f. butanamide
- g. methyl pentanoate
- h. acetone
- i. acetic acid
- j. formaldehyde

3. Circle and name the functional groups in the following molecules:



4. Write a balanced equation to show the combustion of propane gas.

5. Draw the major product that forms when 1-pentene undergoes the following reactions:

- a. hydrogenation with Pd catalyst
  
  
- b. hydration with acid catalyst