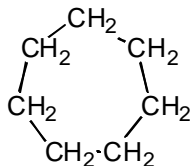
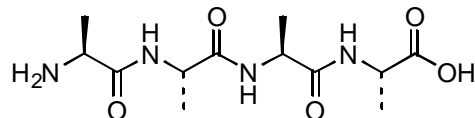
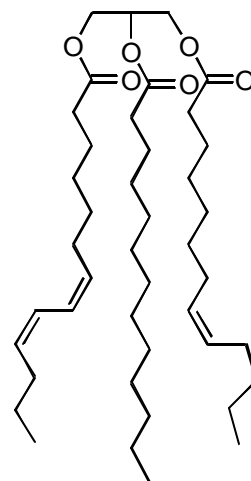
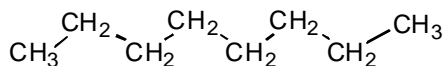
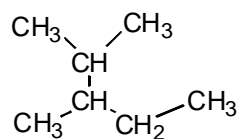
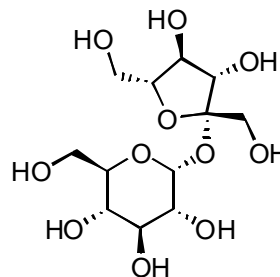
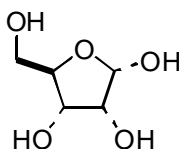
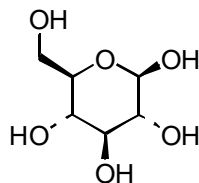


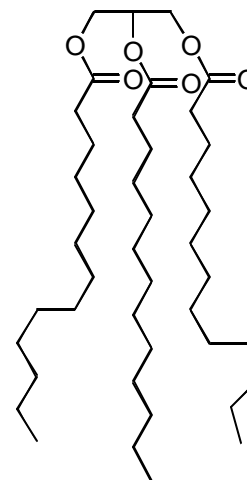
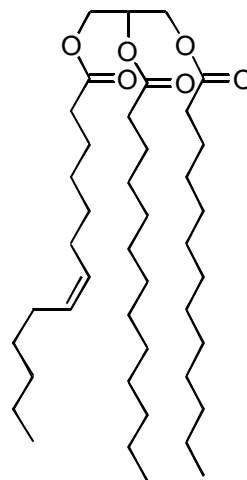
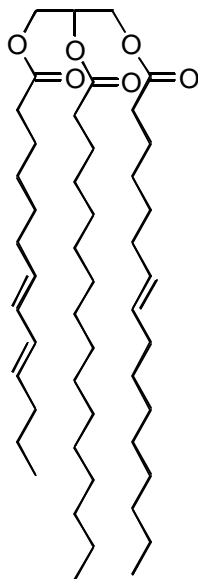
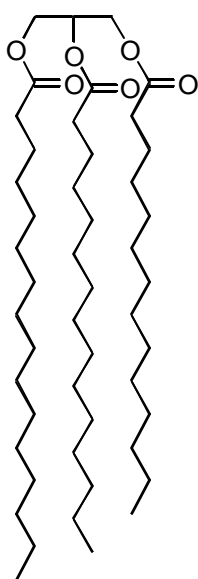
1. (6 points) Circle the *hydrocarbons* in the group below.



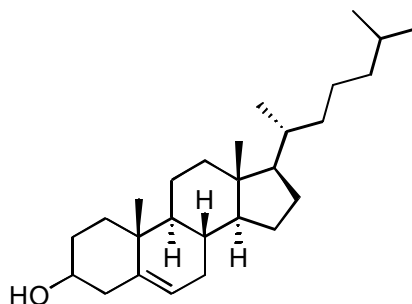
2. (6 points) Circle the *carbohydrates* in the group below.



3. (6 points) The structure of several *fats* are shown below. Circle the *unsaturated* fats.



4. (3 points) The structure of cholesterol is shown below. This compound contains 27 carbon atoms, 46 hydrogen atoms, and a single oxygen atom. Do you expect this compound to be *polar* (and soluble in water) or *non-polar* (soluble in fats and oils, not soluble in water)?



Cholesterol

5. (8 points) Complete the following paragraph, using the terms below. No term should be used more than once.

_____ are macromolecules composed of long chains of structural units called _____. When these long strands are bonded to each other, the material is said to be _____ and is usually quite stiff and brittle, and straight-chain, low _____ material is often soft and flexible. Nylon and _____ are examples of polyamides. Naturally occurring polymers include _____, _____, and _____.

Terms:

cellulose
crosslinked
DNA
Kevlar
molecular weight
monomers
polymers
proteins

starch

6. (9 points) Petroleum (oil) is the source of roughly 80% of the organic compounds that we use. In a refinery:

The process used for separating the components of crude oil is called:

The process used for breaking large compounds into smaller ones is called:

The process used to isomerize and to remove hydrogen from compounds is called:

7. (2 points) This fall, the Russian army used a gas to disable a group of Chechen militants who had attacked a theatre and taken the audience captive. The gas (probably a 'fog' or 'smoke' rather than a true gas) contained a narcotic. Which of the following are narcotics?

