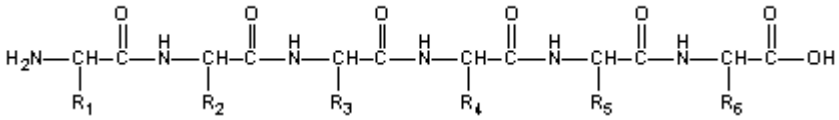
Section 3D Review

Name: _____

Part 1: Identification of Molecules

For each of the following organic structures, specifically identify what kind of carbohydrate, fat or protein the molecule is.

1)



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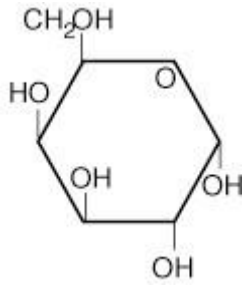

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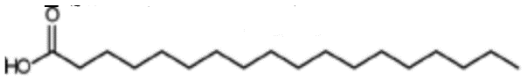

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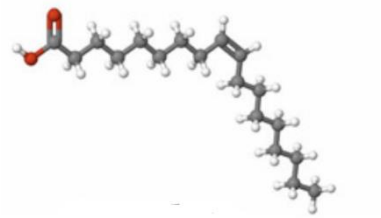

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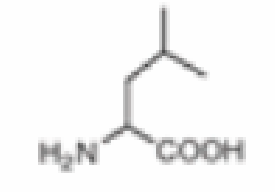
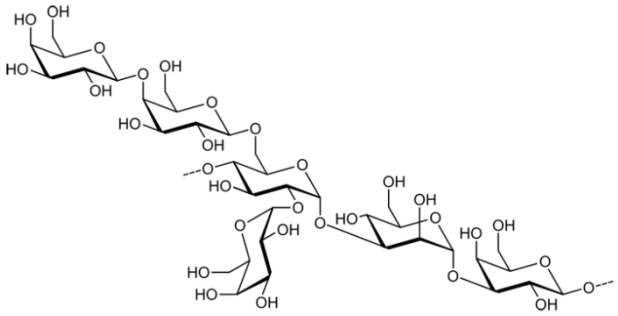


6)



Part 2: Lab Questions

1) A food sample contains 6 grams of carbohydrates, 10 grams of fat and 4 grams of protein.

a) How many Calories will be in the food sample?

b) What is the percentage of each type of food molecule by Calories?

2) A certain energy drink contains 32 grams of sugar per 500 mL drink. The density of the drink is 1.18 g/mL. How many Calories does the drink have, and what is the pph of the sugar in the drink?

3) The following data is collected in the analysis of a granola bar:

Mass of beaker	62.36 g
Mass of beaker and granola bar	75.86 g
Mass of beaker after fat extraction	73.86 g
Mass of filter paper	0.99 g
Mass of filter paper with protein	2.49g
Mass of beaker after filtration (water was added)	126.82 g
Mass of beaker after extraction of water (boiling)	74.46 g

a) Determine the mass for each the carbohydrates, fats and protein in the candy bar.

b) Determine the Calories in the granola bar

Part 3: Questions

1) What is the primary use of saturated fats in the body? How do trans fats cause harm in this process?

2) Describe the ways that photosynthesis and respiration (combustion) are opposite processes.

3) What two biomolecules can polymerize? How is this accomplished?

4) What functional groups characterize each type of food molecule? In other words, what functional groups are on each type of food molecule?

5) In what order are food molecules processed by your body? Which of the three types of fat molecules can be stored by the body?