

Bio 111 Pre-Lab for Lab #05: Name _____

Chemical Structures TA & Sect. _____

Note: You may find the Molecular Formula Calculator useful when answering the questions on this pre-lab. You can find it by going to the Bio 111 Home Page (<http://intro.bio.umb.edu/111-112>), clicking on the On-Line Lab Manual link, and going to the links for this lab.

1) Draw a molecule with the formula CH_2O . That is, a molecule that follows all the bonding rules and is made of exactly one atom of carbon, one atom of oxygen, and two atoms of hydrogen. Show all appropriate lone pairs and charges (if present).

2) Draw two different molecules, all having the same formula: CH_3NO . That is, each molecule should follow all the bonding rules and consist of one carbon, three hydrogens, one nitrogen, and one oxygen. Show all appropriate lone pairs and charges (if present).

a)

b)

3) This question deals with amino acid structure, which has yet to be covered in lecture. It is intended as a warm-up for the lab and the lectures. You should consult Campbell figures 5.17 and 5.18 for this problem. Pick any one of the 20 amino acids from Campbell figure 5.17 and draw it below (no credit for just giving the name). Circle the side chain with a solid line and draw a dotted line around the backbone.

