



This is a figure showing the locations of hydrogen (H), oxygen (O), carbon (C), and nitrogen (N) atoms in one molecule of inositol nicotinate, which is a synthetic drug used to treat coronary heart disease and arteriosclerosis.

Problem 1 - How many atoms of each element are present in one molecule of inositol nicotinate?

Problem 2 - Write the molecular formula of this molecule by filling-in the blanks with the number of counted atoms in the following:

C__ H__ N__ O__

Problem 3 - The mass of each element is given in terms of Atomic Mass Units (AMUs). If the masses of the atoms in inositol nicotinate are H = 1 AMU, C=12 AMU, N= 14 AMU, and O=16 AMU, what is the total mass of one molecule in AMUs?

Problem 1 - How many atoms of each element are present in one molecule of inositol nicotinate?

Answer: **Carbon (C) = 42**
Oxygen (O) = 12
Hydrogen (H) = 30
Nitrogen (N) = 6

Problem 2 - Write the molecular formula of this molecule by filling-in the blanks with the number of counted atoms in the following:



Problem 3 – The mass of each element is given in terms of Atomic Mass Units (AMUs). If the masses of the atoms in inositol nicotinate are H = 1 AMU, C=12 AMU, N = 14 AMU, and O=16 AMU, what is the total mass of a molecule in AMUs?

Answer: $M = 42(12) + 30(1) + 6(14) + 12(16) = 504 + 30 + 84 + 192 = \mathbf{810 \text{ AMU}}$.