

1) A compound is found to have (by mass) 48.38% carbon, 8.12% hydrogen and the rest oxygen. What is its empirical formula?

2) A compound is found to have 46.67% nitrogen, 6.70% hydrogen, 19.98% carbon and 26.65% oxygen. What is its empirical formula?

3) A compound is known to have an empirical formula of CH and a molar mass of 78.11 g/mol. What is its molecular formula?

4) Another compound, also with an empirical formula if CH is found to have a molar mass of 26.04 g/mol. What is its molecular formula?

5) A compound is found to have 1.121 g nitrogen, 0.161 g hydrogen, 0.480 g carbon and 0.640 g oxygen. What is its empirical formula? (Note that masses are given, NOT percentages.)

6) A compound contains 18.8% sodium, 29.0% chlorine, and 52.2% oxygen, by mass. If the molar mass of the compound is 122.44 g/mol, determine the empirical and molecular formulas.