

5. The common pain medicine, Advil, contains the active ingredient Ibuprofen that has a molar mass of 206 g mol^{-1} . Ibuprofen contains 75.73% C, 8.74% H, the remainder being oxygen. What are the empirical and molecular formulae for Ibuprofen? (4)



6. The molar mass of the common antibiotic oxytetracycline is found to be 460 g mol^{-1} and a 2.000 g sample contains 1.1478 g of carbon, 0.10435 g of H, 0.62609 g of oxygen and the remainder being nitrogen. What is the molecular formula of the oxytetracycline? (4)