Combustion Analysis Empirical Formula

1. After combustion with excess oxygen, a 12.501 g of a petroleum compound produced 38.196 g of carbon dioxide and 18.752 of water. A previous analysis determined that the compound does not contain oxygen. Establish the empirical formula of the compound.
2. In a quantitative analysis study, 0.822 g of a compound containing carbon, hydrogen and oxygen only yielded 2.01 g of CO2 and 0.818 g of H2O in a combustion analysis apparatus. Determine the empirical formula of the compound

Total= mass C + mass H + mass O

0.822 g= 0.5487 g C + 0.091616 g H  +mass O

Mass O= 0.181 g O



1. Menthol, the substance we can smell in mentholated cough drops, is composed of C, H, and O. A 0.1005 g sample of menthol is combusted, producing 0.2829 g of CO2 and 0.1159 g of H2O. What is the empirical formula for menthol?

Total= mass C + mass H + mass O

Mass O=

1. Combustion analysis of 0.1500 g of methyl tert-butyl ether, (CxHyOz), an octane booster used in gasoline, gave 0.3744 g of carbon dioxide and 0.1838 g of water vapor. What is the empirical formula of methyl tert-butyl ether?



empirical formula is C5H12O

1. When 6.853 mg of a sex hormone containing C, H, and O was burned in a combustion analysis, 19.73 mg of CO2 and 6.391 mg of H2O were obtained. What is the empirical formula of the compound?

(10.43% H)