1. Combustion analysis of a hydrocarbon (Carbon and hydrogen compound) produced 33.01g of CO2 and 13.51g of H2O. Calculate the empirical formula of the hydrocarbon. CH2
2. Combustion analysis of naphthalene, a hydrocarbon used on mothballs, produced 8.80g of CO2 and 1.44g of H2O. Calculate the empirical formula for naphthalene. C5H4
3. The foul odor of rancid butter is due largely to butyric acid, a compound containing carbon, hydrogen and oxygen. Combustion analysis of a 4.30g sample of butyric acid produced 8.59g CO2 and 3.52g H2O. Determine the empirical formula for butyric acid. C4H8O2
4. Tartaric acid is the white, powdery substance that coats tart candies such as Sour Patch Kids. Combustion analysis of a 12.01g sample of tartaric acid, which contains only carbon hydrogen and oxygen produces 14.08g CO2 and 4.32g H2O. Determine the empirical formula for tartaric acid. C2H3O3
5. When a sample of Propanenitrile is reacted with 31.22g of oxygen gas 32.20g of carbon dioxide 8.79g of water and 3.42g of nitrogen gas are produced. What is the empirical formula of this compound? C3H4N
6. 16.05g of oxygen are combusted with a carbon compound. 18.92g of carbon dioxide and 3.97g of water are produced. What is the empirical formula of the unknown compound? C6H6O
7. A carbon compound produces 5.90g of carbon dioxide 3.02g of water and 1.88g of nitrogen when it is reacted with 4.83g of oxygen. Whate is the empirical formula of the compound? C2H5O2N2
8. 4.01g of oxygen are reacted with an unknown compound and produces 3.68g of carbon dioxide, 1.51g of water, 0.78g of nitrogen, and 3.58g of sulfur. What is the empirical formula of the compound? C3H6N2S4