Chapter 3.5 Empirical Formulas from Analysis

1. What is the molecular formula of the following compound?

   empirical formula CH, molar mass 78 g/mol

   Online Text

   ○ C_3H_3
   ○ C_4H_4
   ○ CH
   ○ C_2H_2
   ○ C_6H_6

2. What is the empirical formula of a compound that contains 7.989 g of carbon and 2.011 g of hydrogen?

   Online Text

   ○ C_2H_6
   ○ C_8H_2
   ○ C_3H
   ○ C_2H_5
   ○ CH_3

3. What is the molecular formula of the following compound?

   empirical formula C_2H_3, molar mass 54 g/mol

   Online Text

   ○ C_6H_9
   ○ C_8H_{12}
   ○ C_4H_6
   ○ C_2H_3

4   Give the empirical formula of the following compound if a sample contains 57.8 percent C, 3.6 percent H, and 38.6 percent O by mass.

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○ $C_4H_3O_2$

○ $C_8H_6O_4$

○ $C_{12}H_9O_6$

○ C_2HO

5. Determine the empirical formula of a compound that contains 52.9 percent aluminum and 47.1 percent oxygen.

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○ Al_4O_6

○ Al_2O_3

○ Al_3O_2

○ $Al_{0.53}O_{0.47}$

○ AlO

6. Give the empirical formula of the following compound if a sample contains 40.0 percent C, 6.7 percent H, and 53.3 percent O by mass.

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○ $C_3H_6O_3$

○ $C_2H_4O_2$

○ C_6HO_8

○ CH_2O