

Quiz Chapter 3 – Question Two

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$$\begin{aligned}m_C &= .2147 \cdot \frac{12}{44} \\&= .0586[\text{g}_C]m_H \\&= .0884 \cdot \frac{2}{18} \\&= .01[\text{g}_H] \\m_O &= .1204 - .0586 - .01 \\&= .0518[\text{g}_O] \\ \text{mol}_C &= \frac{.0586}{12} \rightarrow .0049[\text{mol}_C] \\ \text{mol}_H &= \frac{.01}{1} \rightarrow .01[\text{mol}_H] \\ \text{mol}_O &= \frac{.0518}{16} \rightarrow .0032[\text{mol}_O] \\ \text{C}_{\frac{.0049}{.0032}} \text{H}_{\frac{.01}{.0032}} \text{O}_{\frac{.0032}{.0032}} &\rightarrow \text{C}_3\text{H}_6\text{O}_2\end{aligned} \tag{1}$$