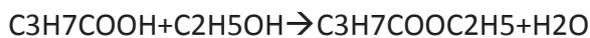


Answer on Question#48387 – Chemistry, Organic Chemistry

Given 7.50g of butanoic acid and excess ethanol, how many grams of ethyl butyrate would be synthesized, assuming a complete 100% yield?

Solution:



$$M(\text{C}_3\text{H}_7\text{COOH}) = 88 \text{ g}^{\text{mol}^{-1}}$$

$$M(\text{C}_3\text{H}_7\text{COOC}_2\text{H}_5) = 116 \text{ g}^{\text{mol}^{-1}}$$

$$v = \frac{m}{M}; \quad v_1 = v_2;$$

$$m(\text{C}_3\text{H}_7\text{COOC}_2\text{H}_5) = 9.89 \text{ g}$$

Answer: 9.89 g