

Question #68021, Chemistry / General Chemistry - completed

A quantity of gas, which occupied 213 mL at 100 degrees C and 750 mmHg, weighed 0.783g. Calculate the molecular weight.

Solution:

$$PV = \frac{m}{M}RT \Rightarrow M = \frac{mRT}{PV}$$
$$M = \frac{0.783 \times 8.31 \times 373}{99.99 \times 0.213} = 113.96 \left(\frac{g}{mol}\right)$$

Answer: 113.96 g/mol.

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