

Answer on Question #53760 - Chemistry – Inorganic Chemistry

Question

The empirical formula of glucose is CH_2O which has a formula mass of 30 amu. If the molecular mass of glucose is 180 amu. Determine the molecular formula of glucose.

Answer:

We can say that empirical formula of glucose is CH_2O , or $\text{C}_n\text{H}_{2n}\text{O}_n$.

Find out a coefficient by dividing molar mass of glucose by mass of its empirical formula:

$$n = 180/30 = 6$$

So, the molecular formula of glucose is: $\text{C}_6\text{H}_{12}\text{O}_6$.

Answer: $\text{C}_6\text{H}_{12}\text{O}_6$.