

Answer on Question #55968- Chemistry - Physical Chemistry

Question:

l is a organic compound which has 12.8% C,2.14% N,85.1 % Br percentage of the weight . The molar mass of the compound is 188.what is the formula of the compound ?

Solution:

Task is incorrect N=H, obviously, in other case there no any real solution.

The formula of compound is $C_nH_mBr_l$.

$$n:m:l = \frac{\tilde{N}(\%)}{A(C)} : \frac{H(\%)}{A(H)} : \frac{Br(\%)}{A(Br)}$$
 where $A(X)$ – atomic mass

$$\frac{12.8}{12.0} : \frac{2.14}{1.0} : \frac{85.1}{79.9} = 1.067 : 2.14 : 1.06$$

The simplest formula is CH_2Br .

Taking into account its molar mass, the true formula is $C_2H_4Br_2$

Answer: $C_2H_4Br_2$