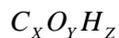an organic compound contains 66.7% C, 11.1% H and had a remainder is oxygen. it relative formula mass was 72. find the empirical formula of the compound and the molecular formula of the compound

$$\omega(O) = 100 - 66.7 - 11.1 = 22.2\%$$
$$C_X O_Y H_Z$$
$$X : Y : Z = \frac{\omega_1}{M_1} : \frac{\omega_2}{M_2} : \frac{\omega_3}{M_3}$$
$$X : Y : Z = \frac{66.7}{12} : \frac{22.2}{16} : \frac{11.1}{1} = 5.56 : 1.39 : 11.1 = 4 : 1 : 8$$

12*4+1*16+8*1=72 → **C_4H_8O**