

1. The empirical formula of a compound is found to be  $P_2O_5$ . Experiments show that the molar mass of the compound is 283.9 g/mol. What is the molecular formula of the compound?
2. A compound has the following % composition—76.54 % C, 12.13 % H, and 11.33 % O. If its molar mass is 282.5 g/mol, what is its molecular formula?
3. What is the formula for a hydrate which consists of 90.7 %  $SrC_2O_4$  and 9.30 %  $H_2O$ ?