Calculate the boiling-point elevation of a solution made from 15.0 g of a nonelectrolyte solute and 250.0 g of water. The molar mass of the solute is 50.0 g and Kb=0.51°C/m.

Consider a solution of 50g KCl, a strong electrolyte, dissolved in 1.5 kg of water. Determine the expected freezing point of the solution. The molar mass of KCl is 74.55 g and Kf = –1.86°C/m.

When a nonvolatile solute is dissolved in water, the vapor pressure decreases, resulting in an increase in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and a decrease in the \_\_\_\_\_\_\_\_\_\_\_ of the solution.