

Colligative Properties Worksheet

- 1) If I add 45 grams of sodium chloride to 500 grams of water, what will the melting and boiling points be of the resulting solution? $K_b(\text{H}_2\text{O}) = 0.52 \text{ } ^\circ\text{C}/m$ and $K_f(\text{H}_2\text{O}) = 1.86 \text{ } ^\circ\text{C}/m$.
- 2) What is the vapor pressure of the solution in problem #1 at 25°C ? The vapor pressure of pure water at 25°C is 3.17 kPa.
- 3) Which solution will have a higher boiling point: A solution containing 105 grams of sucrose ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$) in 500 grams of water or a solution containing 35 grams of sodium chloride in 500 grams of water?