

Colligative Properties Worksheet

FYI: K_f of water is 1.86°C/m ; K_b of water is 0.52°C/m

- 1) Explain why the addition of a solute decreases the melting point of a liquid.

- 2) What is the melting point of a solution in which 3.5 grams of sodium chloride is added to 230 mL of water?

- 3) What is the boiling point of a solution in which 22.5 grams of sucrose ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$) is dissolved in 550 mL of water?

- 4) Rank the following solutions from lowest to highest boiling point, a 2.5 m solution of sodium chloride, a 3.5 m solution of magnesium chloride, or a 4.5 m solution of sulfur dioxide?

- 5) If an aqueous solution has a boiling point of 102.5° , what's the effective molality of the solute?