10.24: Colligative Properties of Solutions

The **colligative properties** of a solution are those which depend on the number of particles (and hence the amount) of solute dissolved in a given quantity of solvent, irrespective of the chemical nature of those particles. We have already seen from Raoult's law that the vapor pressure of a solution depends on the mole fraction of solute (amount of solute), and now we are in a position to see how this affects several other properties of solutions.

In the image below, there are two solutions. Both have a dark blue solvent and the same number of solute particles dissolved in said solvent, light blue particles on the left and green particles on the right. A colligative property is a property that would be the same for both of the solutions below, even though they contain different solutes. Since they contain the same *number* of solute particles, any colligative properties of the solutions would be identical.