

Colligative properties.

Certain properties of dilute solutions containing non-volatile solute do not depend upon the nature of the solute dissolved but depend only upon the concentration i.e., the number of particles of the solute present in the solution. Such properties are called colligative properties. The four well known examples of the colligative properties are

- (1) Lowering of vapor pressure of the solvent.
- (2) Osmotic pressure of the solution.
- (3) Elevation in boiling point of the solvent.
- (4) Depression in freezing point of the solvent.

Since colligative properties depend upon the number of solute particles present in the solution, the simple case will be that when the solute is a non-electrolyte. In case the solute is an electrolyte, it may split to a number of ions each of which acts as a particle and thus will affect the value of the colligative property.

Each colligative property is exactly related to any other and thus if one property is measured, the other can be calculated. The study of colligative properties is very useful in the calculation of molecular weights of the solutes.