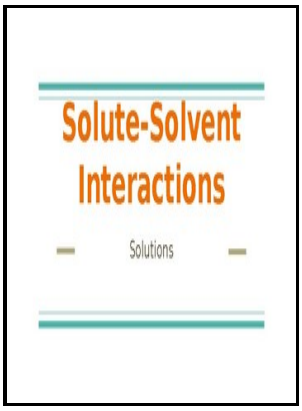
# Solute-solvent interactions

## M. Dekker - Merten Lab » Solute




Description: -
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Education -- Japan -- Statistics
Solvents.
Solution (Chemistry)Solute-solvent interactions
-Solute-solvent interactions
Notes: Includes bibliographies.
This edition was published in 1969



Filesize: 53.83 MB

Tags: #Solubility #of #drugs

**Thermodynamics and solute**

As an example, the solubility of N 2 gas in water at 25°C and 0. The Henry's law constant for CO 2 in water at this temperature is 3.

**Solubility of drugs**

Hydrogen bonding in the gas phase and in solution. Hydrocarbons are nonpolar substances, because of several factors: The C C bonds are nonpolar, the C H bonds are nearly nonpolar, and the shapes of the molecules lead to cancellation of much of the weak C H bond dipoles.

**Difference Between Solvent and Solute**

We would therefore predict that C 7H 16 and I 2 would be more soluble in the nonpolar CCl 4 than in polar H 2O. In the case of the sodium ion, the positive charge attracts the negative end of each water molecule's dipole.

**Solute**

The force of attraction depends upon the nature of the solvent and the nature of the solute. These intermolecular attractions must be broken before new solute-solvent attractive forces can become effective.

**Thermodynamics and solute**

A comparison of the chemical structures of vitamin A and vitamin C quickly reveals why one is hydrophobic and the other hydrophilic. The Henry's law constant for N 2 in water at 25°C is thus given by 5.

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