

Chap 13 - Solutions!

Solute → gets dissolved

Solvent → does the dissolving (If 2 liquids) MORE solvent

Solvation → Process of dissolving

requires energy to break bonds

heat of solution

$\Delta H = \text{bonds broken} - \text{bonds formed}$  IMF

Jan 3-7:53 AM

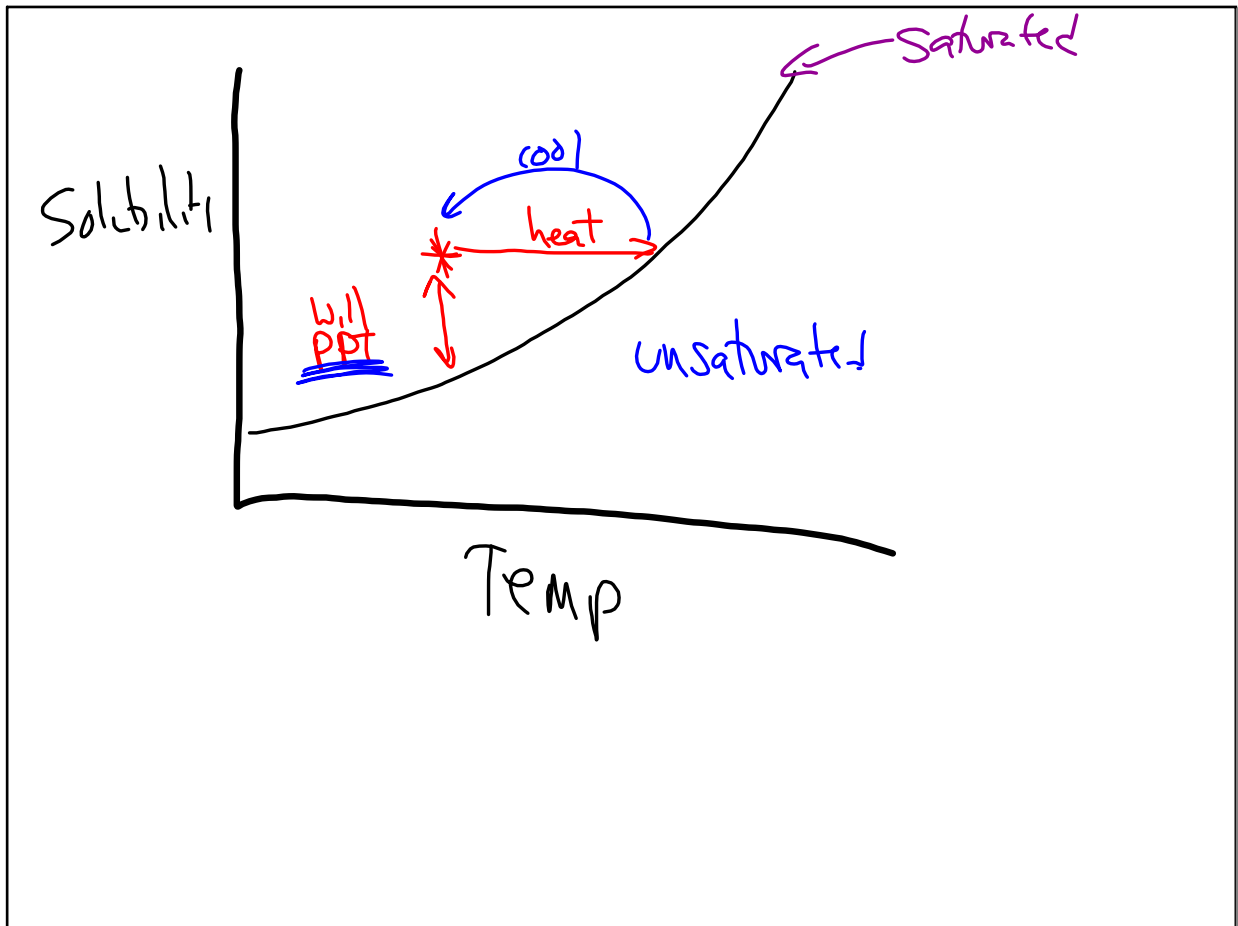
Types of solution

Unsaturated  
solvent can hold more solute  
seats available at movie theater:  
Dilute (lower M concn)  
Concentrated (greater M concn)

Saturated  
Full  
solvent can NOT hold any more solute.  
All seats occupied in theater  
Precipitate on bottom (undissolved) soln on top saturated

super SATURATED  
can hold more only under special conditions.  
S.R.O.  
once conditions are removed → extra leaves soln. precipitates

Jan 3-8:19 AM



Jan 3-8:35 AM

$M = \text{Molarity}$   
 Measure of concentration  
 of a solution.

$$\frac{M}{1} = \frac{\text{Moles of solute}}{1 \text{ of solution}}$$

(both solute + solvent)

Jan 3-8:40 AM

$m = \text{molarity}$

$$m = \frac{\text{Moles of solute.}}{\text{Kg of Solvent}}$$

only!

$$\frac{D}{i} = \frac{M}{V}$$

Jan 3-8:42 AM

% composition  $10^2 = \text{pph}$

$$\frac{\text{PART}}{\text{Whole}} \times 100 \quad \text{parts per hundred}$$


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PPM  $\frac{\text{Part}}{\text{Whole}} \times 10^6$   
1,000,000

PPb  $\frac{\text{Part}}{\text{Whole}} \times 10^9$

Jan 3-8:43 AM

13 / 24, 28, 32  
↑  
Need sol. comp

Jan 3-8:46 AM