

Solutions

Endo - More energy in than out.

Breakup
Solvent/Solute

Form
Solution

Exo - More energy out than put in

Q53)

Jan 4-7:46 AM

Concentrations - Amount of solute in the solvent
Kids *BUS*

Unsaturated - empty seats on bus

Dilute → very few kids ⇒ lots of empty seats
BIG BUS, - 3 Kids

$\frac{3}{60}$

Concentrated

→ few empty seats.

Jan 4-7:58 AM

Saturated $\xrightarrow{\frac{60}{60}}$ No empty seats
 All seats on bus are filled with kids.
 ↳ The solvent can not hold/dissolve any more solute.

SUPER Saturated → Solvent can hold
 .. More solute than normal & of "Special conditions"
 $T - (g)$
 $P - (g)$

Jan 4-8:04 AM

Factors Affecting Solubility P / NP

Miscible	vs	immiscible
"Dissolves"		"does not dissolve"

① POLARITY ! \rightarrow Bond types.
Solvent \leftrightarrow Solute
 Polar \leftrightarrow Polar Ionic
 NP \leftrightarrow NP

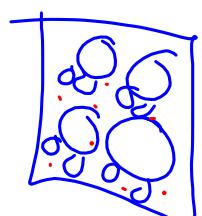
Jan 4-8:14 AM

② Temp of (gas)
Press of (gas)

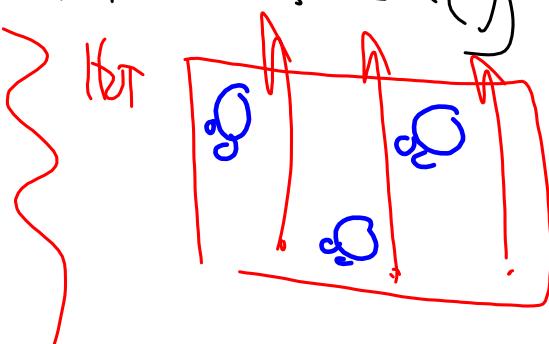
Cold Soda \rightarrow holds more $(\text{O}_2 \text{ gas})$

Hot Soda \rightarrow holds less $(\text{O}_2 \text{ gas})$

(Cold)



Hot



Jan 4-8:16 AM

③ Concentration already dissolved

Dilute

\rightarrow Concentrated

easy
dissolve

Slow

Solvent dissolves
in solute

Moving together
Stay

- Finer Spt.

Jan 4-8:19 AM

Measure Concentration

$$\text{sg } M = \text{ Molality} \quad \frac{\text{Moles of solute}}{\text{l of solution}}$$

$$\text{kg } m \quad \underline{\text{molarity}} \quad \frac{\text{Moles of solute}}{\text{Kg of solvent}}$$

Jan 4-8:21 AM

13 / 28, 32, 42

Jan 4-8:26 AM