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solution - homogeneous mixture

solvent - the major component of the solution

solute - the minor component of a solution

soluble - able to form a homogeneous mixture with a particular solvent at a particular temperature

dissolve - to cause a homogeneous mixture to form

miscible - able to form a solution regardless of the quantities used

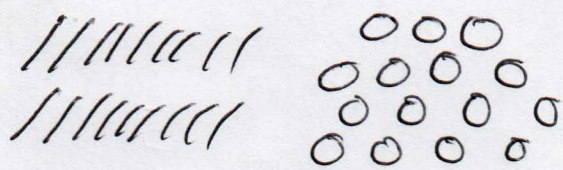
immiscible - unable to form a solution regardless of the quantities used.

saturated - contains the maximum quantity of a particular solute in a particular solvent at a particular temperature.

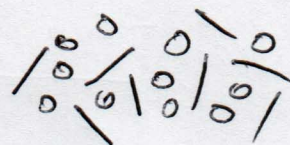
Freezing point depression

Freezing occurs when thermal energy drops to the point that the molecules have insufficient energy to overcome the attractive forces between them,

→ $IMF > KE$



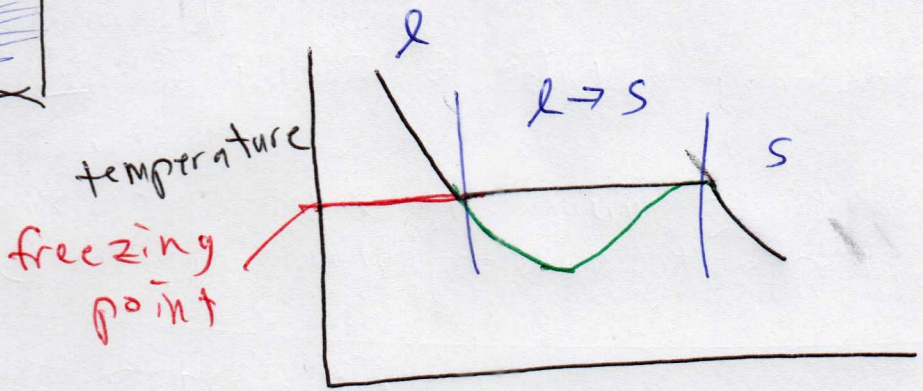
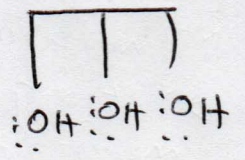
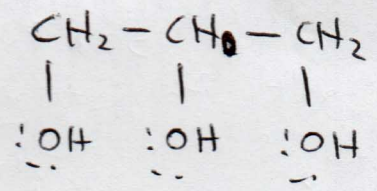
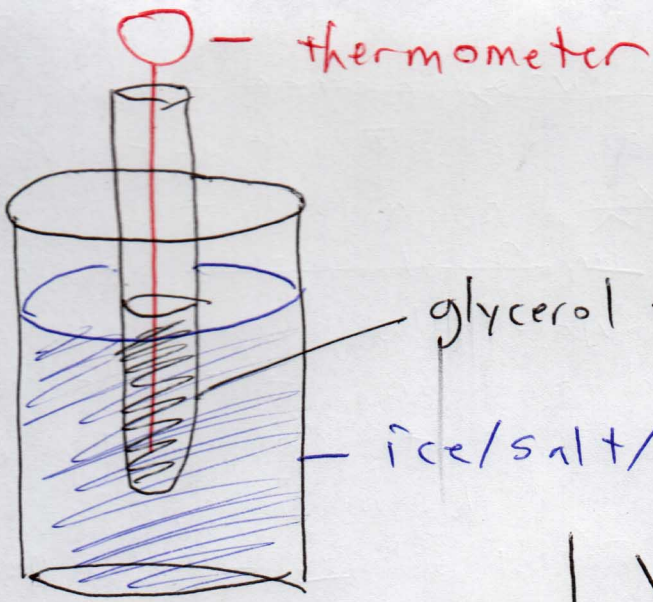
pure substances



solution

Normally, pure substances are able to achieve a more efficient packing when forming a solid than a solution.

This means that normally the IMF present between components of a solution is lower than in either pure substance. Therefore, more energy must be removed to form a solid due to the lowered IMF, resulting in freezing point depression.



Supersaturation - a condition in which a solution contains more solute than normally is possible at that temperature