

N32 – Heat of Solution

Energetics of Solution Formation: The Enthalpy of Solution

To make a solution you must

1. **Overcome all attractions between the solute particles;** therefore, ΔH_{solute} is endothermic. ΔH_1
2. **Overcome some attractions between solvent molecules;** therefore, $\Delta H_{\text{solvent}}$ is endothermic. ΔH_2
3. **Form new attractions between solute particles and solvent molecules;** therefore, ΔH_{mix} is exothermic. ΔH_3

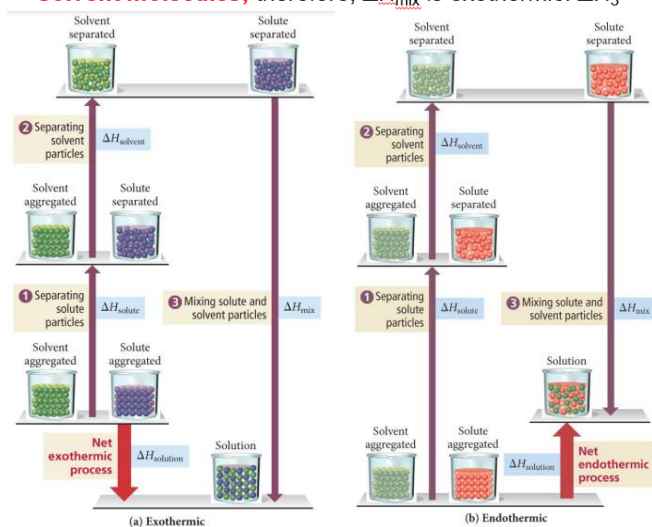


TABLE 12.2 Relative Interactions and Solution Formation

Solvent-solute interactions	>	Solvent-solvent and solute-solute interactions	Solution forms
Solvent-solute interactions	=	Solvent-solvent and solute-solute interactions	Solution forms
Solvent-solute interactions	<	Solvent-solvent and solute-solute interactions	Solution may or may not form, depending on relative disparity

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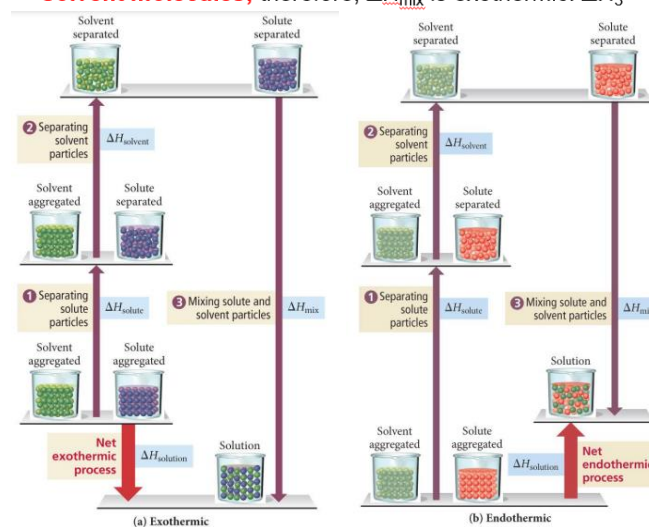


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