

## Enthalpy of solution

General Chemistry, CH102 Spring 2011

1. An ionic solid  $\text{MX}(s)$  is added to water and it spontaneously dissolves. This means the solution ...

- 0% 1. get warmer
- 0% 2. gets cooler
- 0% 3. There is no temperature change
- 0% 4. Further information needed

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2. Is the process  $\text{MX}(s) \rightarrow \text{M}^+(g) + \text{X}^-(g)$  exothermic or endothermic? The energy change is called the **lattice energy**.

- 0% 1. exothermic
- 0% 2. endothermic
- 0% 3. Need to know the substance  $\text{MX}(s)$ .

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3. Is the process  $\text{M}^+(g) + \text{X}^-(g) \rightarrow \text{M}^+(aq) + \text{X}^-(aq)$  exothermic or endothermic? The energy change is called the **hydration energy** (or **heat of hydration**).

- 0% 1. exothermic
- 0% 2. endothermic
- 0% 3. Need to know the substance  $\text{MX}(s)$ .

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4. Is the process  $\text{MX}(s) \rightarrow \text{M}^+(aq) + \text{X}^-(aq)$  exothermic or endothermic? The energy change is called the **enthalpy** (or **heat**) of solution.

- 0% 1. exothermic
- 0% 2. endothermic
- 0% 3. Need to know the substance  $\text{MX}(s)$ .

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5. The sign of the enthalpy of solution predicts whether something dissolves ...

- 0% 1. only for exothermic dissolving,  $\Delta H_{\text{soln}} < 0$ .
- 0% 2. only for endothermic dissolving,  $\Delta H_{\text{soln}} > 0$ .
- 0% 3. for neither exo- or endothermic dissolving.

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6. An ionic solid is very soluble in water. This means the energy of dissolving is ...

- 0% 1. large and positive
- 0% 2. large and negative
- 0% 3. small and positive
- 0% 4. small and negative
- 0% 5. None of the above

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