Enthalpy of solution

General Chemistry, CH102 Spring 2011

1. An ionic solid 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 $MX(s) \rightarrow M^+(g) + X^-(g)$ exothermic or endothermic? The energy change is called the **lattice energy**.

0% 1. exothermic
0% 2. endothermic
0% 3. Need to know the substance MX(*s*).

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3. Is the process $M^+(g) + X^-(g) \rightarrow M^+(aq) + X^-(aq)$ 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 MX(*s*).

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4. Is the process $MX(s) \rightarrow M^+(aq) + X^-(aq)$ 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 MX(*s*).

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

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

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