**Enthalpy changes**

**2019**

The equation for the vaporisation of hexane is:



Circle the term that best describes this process: Endothermic Exothermic

Give a reason for your choice.

**2018**

(i) Write an equation to represent the enthalpy of fusion (melting), Δfus*H*°, of water.

(ii) Why is the enthalpy of vaporisation of water larger than its enthalpy of fusion?

**2017**

(i) Write an equation for the sublimation of iodine in the box below.

(ii) Define the enthalpy of sublimation for iodine.

**2016**

The standard enthalpy of vaporisation, Δvap*H*°, of sodium chloride, NaCl, hydrogen chloride, HCl, and chloromethane, CH3Cl, are given in the table below.



(i) Define Δfus*H*°(NaCl).

(ii) Why is Δvap*H*°(NaCl) greater than Δfus*H*°(NaCl)?

(iii) Why does NaCl readily dissolve in water, even though the process is slightly endothermic?

NaCl(*s*) → Na+(*aq*) + Cl–(*aq*) Δr*H*° = +3.90 kJ mol–1

**2015**

(a) The equation for Δf *H* ° of H2O(l) is:

H2(*g*) + ½O2(*g*) → H2O(l) −286 kJ mol–1

(a) (i) Write the equation for Δc*H* ° (H2(*g*)).

(ii) Using the equations above, explain why Δc*H* ° (H2) and Δf *H* ° (H2O) have the same value of −286 kJ mol–1

(b) The enthalpy of formation would change if the water was formed as a gas rather than a liquid.

(i) Circle the correct phrase to complete the sentence below.

Δf *H* ° (H2O(*g*)) is: less negative than / the same as / more negative than Δf *H* ° (H2O(l)).

(ii) Justify your choice.

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