General Chemistry 2 | 4th Quarter

WW4: Predicting Entropy Changes

March 16 2021

Page 183

For each process, tell whether entropy increases or decreases, and explain how you arrived at your prediction.

a)
$$2CO_2(g) \rightarrow 2CO(g) + O_2(g)$$

Entropy increases since 2 moles of CO2 gas becomes 2 moles of CO + 1 mole of O2.

b)
$$NaCl(s) \rightarrow NaCl(aq)$$

Entropy increases because NaCl goes from a calm state to a little bit more chaotic state.

c)
$$MgCO_3(s) \stackrel{heat}{\rightarrow} MgO(s) + CO_2(g)$$

Entropy increases since a mole of solid substances releases a mole of gas which is chaotic and has much more entropy than solid and liquid.