General Chemistry 2 | 4<sup>th</sup> Quarter

## WW5: Calculating an Entropy Change

March 16 2021

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Use absolute entropies from Table 5-1 to calculate the entropy change for each of these processes, thereby verifying the predictions made in Conceptual Exercise 5-4.

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

$$2(213.74) \rightarrow 2(197.674) + 205.138$$
  
 $427.48 \rightarrow 600.486$   
 $600.486 - 427.48 = 173$ 

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

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

$$65.7 \rightarrow 26.94 + 213.74$$
  
 $65.7 \rightarrow 240.68$   
 $240.68 - 65.7 = 174.98$