## **Biochemistry Homework 2**

Estimate standard free energy for the following reaction and provide a logical explanation for your answer:

$$ATP + CDP \rightarrow ADP + CTP$$

Technically, it is hard to determine directly the standard free energy for ATP hydrolysis experimentally. This is because of the minute amount of ATP remaining at equilibrium, so measurements will not be accurate. <u>It is calculated indirectly!</u>

Calculate standard free energy of ATP hydrolysis, provided the following information:

Glucose-6-Phosphate + 
$$H_2O \rightarrow Glucose + P_i$$
  
 $K^{o}_{eq} = 270$ 

$$ATP + Glucose \rightarrow Glucose-6-Phosphate$$
  
 $K^{o}_{eq} = 890$