Consider the following reaction:

$$O_2 + 2H_2 \rightarrow 2H_2O$$

bond	ΔH°_{break} $(kJ \cdot mol^{-1})$
$O = O$	498
$H - H$	436
$O - H$	464

1. Write a total "inventory" of the bonds on both sides of the reaction:

products		reactants	
bond type	number	bond type	number

2. Can you estimate the ΔH° of the reaction? Is it exothermic or endothermic?

3. Can you make sense of the reaction enthalpy in terms of the atoms involved?

4. Is H_2 *oxidized* or *reduced* in this reaction? How can you tell?

5. If an $ADP + P_i \rightarrow ATP$ takes 30.5 $kJ \cdot mol^{-1}$, how many ATP could you form with this reaction?