Grossmont College Name: \_\_\_\_\_KEY\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemistry 102, Spring 2017

Quiz 4A (21 points) Date: \_\_\_\_\_\_\_\_\_\_\_\_

1. (5 points) The potential energy diagram shown is for an **ENDOTHERMIC** / **EXOTHERMIC** reaction. *(circle one)*

 Label the **reactants**, the **products**, **activation energy** (*Eact*), and **change in energy** (Δ*E*) .



potential

 energy

 reaction progress

***Eact***

**R**

***E***

**P**

1. (4 points) For each scenario below, state which factor (temperature change, change in amount, the presence of a catalyst) is being changed to alter the reaction rate.
2. Firewood is chopped into small pieces to make lighting a fire easier. \_\_ change in amount \_\_\_\_\_
3. A black powder called manganese dioxide causes hydrogen peroxide to decompose faster than normal. The powder is not used up during the reaction.

\_\_ the presence of a catalyst \_

1. Food left in the fridge lasts longer than food left out. \_\_\_ temperature change \_\_\_
2. Coal dust can cause explosions. \_\_ change in amount \_\_
3. (4 points) Label the four **functional groups** on this molecule including acetals, hemiacetals



1. (8 points) For each reaction, draw the expected product. For alkene addition pay attention to Markovnikov’s rule for unsymmetrical reagents.





