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

Chemistry 102, Spring 2017

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

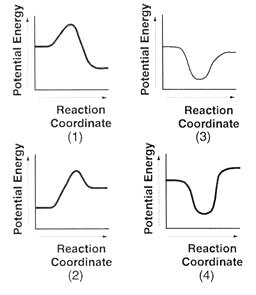
(5 points) The potential energy diagram is for an **ENDOTHERMIC** / **EXOTHERMIC** reaction. *(circle one)*

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

potential

energy

reaction progress



***Eact***

**P**

***E***

**R**

(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.

1. Coal dust can cause explosions. \_\_\_ change in amount \_\_\_\_\_
2. Food left in the fridge lasts longer than food left out. \_\_ temperature change \_\_\_\_
3. Firewood is chopped into small pieces to make lighting a fire easier. \_\_\_ change in amount \_\_\_
4. A black powder called manganese dioxide causes hydrogen peroxide to decompose faster than normal. The powder is not used up during the reaction.

\_ Presence of a catalyst \_\_\_

1. (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.





