

**Organic Chemistry 2**

Quiz #1

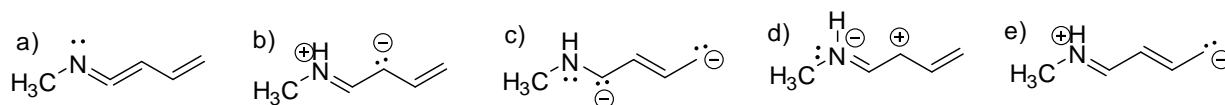
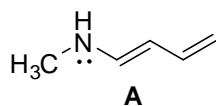
January 29, 2010

Name: \_\_\_\_\_

1. Circle the best explanation for why conjugated dienes have special stability. (2 pts.)

- a) Conjugated dienes are connected by sp-sp bonds that are stronger than the sp-sp<sup>3</sup> bonds found with isolated alkenes.
- b) Resonance contributors from conjugated dienes contain stabilizing carbocations and carbanions.
- c) The lowest energy molecular orbital has the maximum electron delocalization over all four atoms.
- d) The highest occupied molecular orbital (HOMO) has electron density located in two broad areas that share electrons at a central node.
- e) Conjugated dienes are named so because they are molecules that are literally dyin' and you really can't be any lower in energy or more stable than when you are dead.

2. Circle all the contributing resonance forms of the molecule **A** shown below. (2 pts.)



3. Provide the major product of the following reaction in the box to the right. Be sure to include stereochemistry if applicable. (2 pts.)

