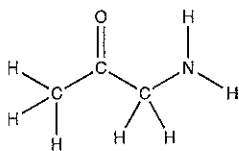
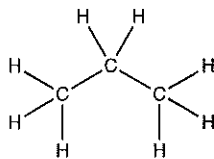


Thursday KEY

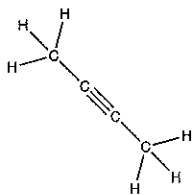
1. (5 points) Match the letter of the molecule that supports each of the following statements. Lone pairs not shown on the structures. 1 point each R or W



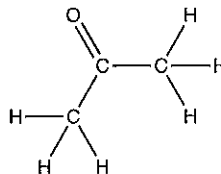
A



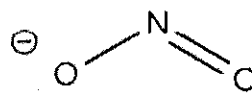
B



C



D

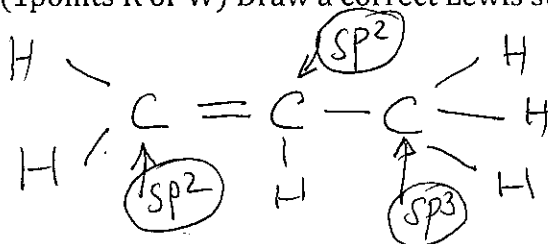


E

- 1) D Contains nine (9) sigma ( $\sigma$ ) bonds and one (1) pi ( $\pi$ ) bond
- 2) A Contains  $sp^3$  hybridized orbitals that contain lone pairs
- 3) B Contains only  $sp^3$  hybridized atoms (except for hydrogen atoms)
- 4) C Contains two pi ( $\pi$ ) bonds perpendicular to each other
- 5) E Contains only  $sp^2$  hybridized atoms

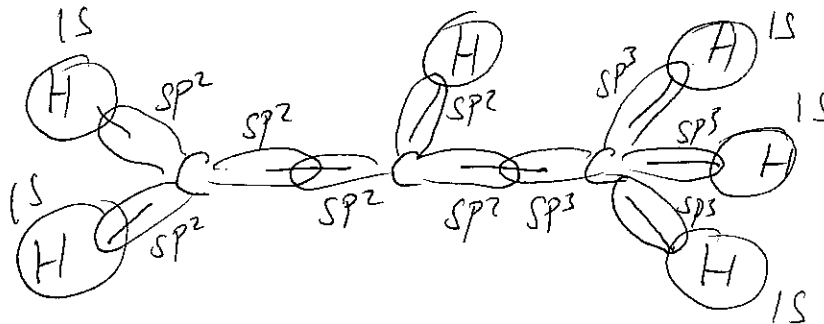
2. Answer the following questions for  $C_3H_6$ .

- a. (1points R or W) Draw a correct Lewis structure:



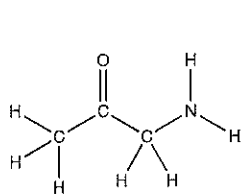
- b. (2points R or W) Define hybridization of all center atoms:

- c. (2points R or W) Using hybridized atomic orbitals, sketch the  $\sigma$ -frame for  $C_3H_6$ .

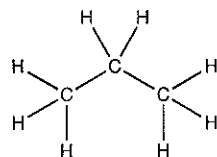


Friday KEY:

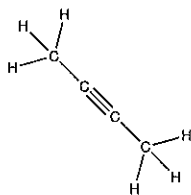
1. (5 points) Match the letter of the molecule that supports each of the following statements. Lone pairs not shown on some structures. (1 point each R or W)



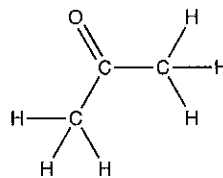
A



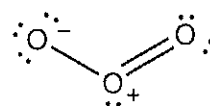
B



C



D

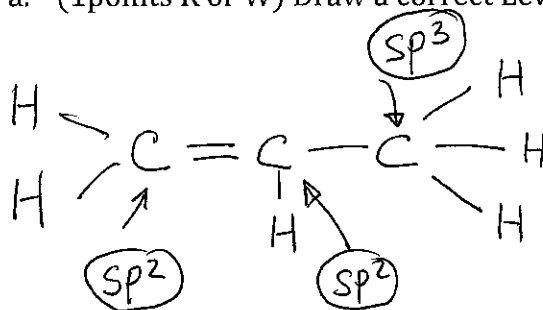


E

- 1) D Contains nine (9) sigma ( $\sigma$ ) bonds and one (1) pi ( $\pi$ ) bond
- 2) A Contains  $sp^3$  hybridized orbitals that contain lone pairs
- 3) C Contains  $sp$  hybridized atom(s)
- 4) C Contains two pi ( $\pi$ ) bonds perpendicular to each other
- 5) E Contains only  $sp^2$  hybridized atoms

2. Answer the following questions for  $C_3H_6$ .

- a. (1points R or W) Draw a correct Lewis structure:



- b. (2points R or W) Define hybridization of all center atoms:

- c. (2points) Using hybridized atomic orbitals, sketch the  $\sigma$ -frame for  $C_3H_6$ .

R or W

