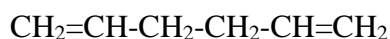


Midterm Report

2021. 04. 19. ~ 04. 30.

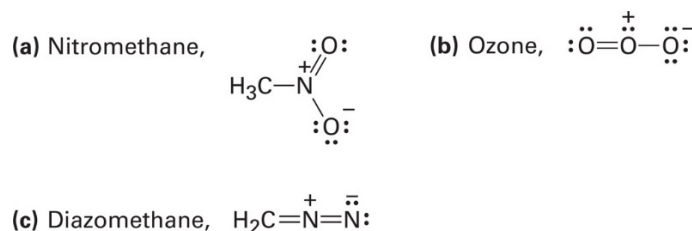
Problem 1

Draw a picture showing the orbitals involved in the σ and π bonds of 1,5-hexadiene.



Problem 2

Draw as many resonance structures as you can for the following species, adding appropriate formal charges to each:



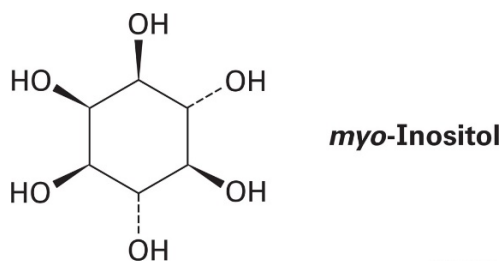
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Problem 3

Draw and name all monobromo derivatives of 2,5-dimethylhexane, $\text{C}_8\text{H}_{17}\text{Br}$.

Problem 4

myo-Inositol, one of the isomers of 1,2,3,4,5,6-hexahydroxycyclohexane, acts as a growth factor in both animals and microorganisms. Draw the most stable chair conformation of *myo*-inositol.



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Problem 5

Draw all possible stereoisomers of 1,2-cyclobutanediol, and indicate the interrelationships. Which, if any, are optically active? Do the same for 1,3-cyclobutanediol.