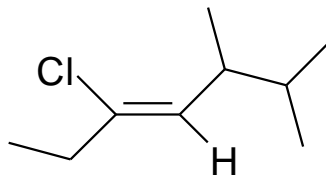
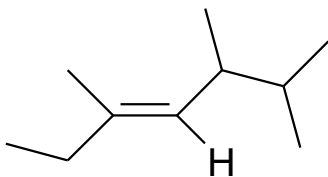


CHM 2210 - Ch 7 Homework

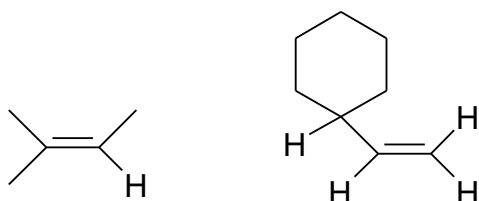
1. Review Nomenclature Rules and E/Z in class notes, as well as sections 7.3 and 7.5 in the text. Name the following substituted alkenes, and include stereochemistry. (2 pts)



2. Draw skeletal structures for 1,4-diethenyl-1,3-cyclohexadiene, (Z)-3-methyl-2-pentene, and both *cis*, *cis*- and *trans*, *trans*-2,3,3-trimethyl-1,4,6-octatriene. (2 pts)

3. Calculate the degree of unsaturation for  $C_7H_{12}Cl_2$  and  $C_{12}H_{20}O_2$ .  
Review section 7.2 and the chapter notes. Show your work. (1 pt)

4. Predict the intermediate cations and major products which result from the addition of HBr to the following alkenes. For the second molecule, review carbocation rearrangements in the class notes and in section 7.11. (2 pts)



5. Two types of rearrangements are possible for the carbocation below. See section 7.11 and class notes. Show how both rearranged cations form. Label the cations with their type of rearrangement. Then, for all three cations (the two rearranged cations as well as the original), show the products of their reactions with bromide ( $\text{Br}^{-1}$ ). Finally, note which two alkyl halide products are the same, and which product is favored. (3 pts)

