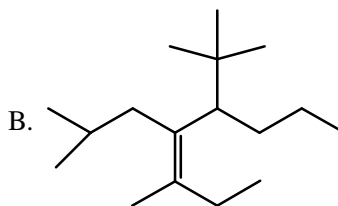


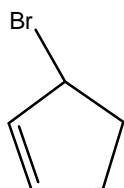
Chem 233: Problem Set #6 (on Chapter 6)

1. Name or draw structures for the following:

A. 3-ethyl-5,6-dimethyl-3-heptene



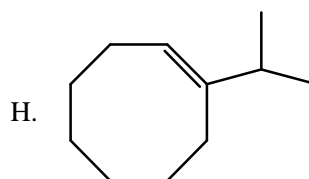
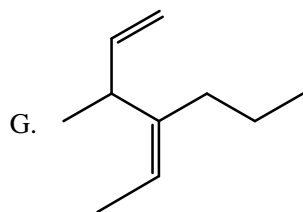
C.



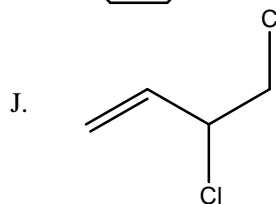
D. ethylene

E. vinyl bromide

F. 4-allylcyclopentene



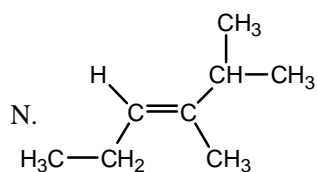
I. chloroethene



K. *cis*-2-pentene

L. *trans*-5-methyl-2-hexene

M. (Z)-1-chloro-2-methyl-1-butene



2. Are *cis*/*trans* isomers possible for each of the following? If so, draw and label both isomers.

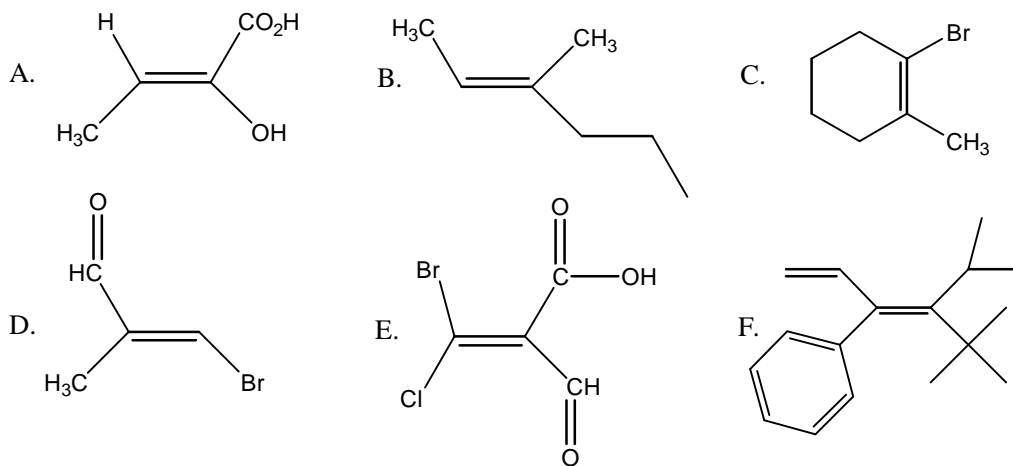
A. 2,3-dichloro-2-butene

B. 2,3-dichloro-1-butene

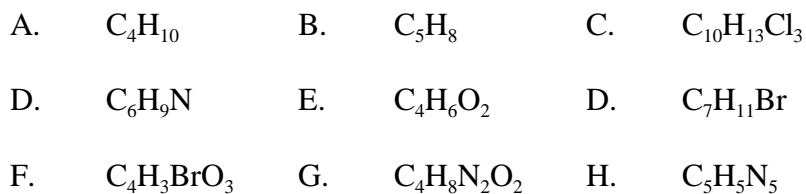
C. 1-pentene

D. 2-pentene

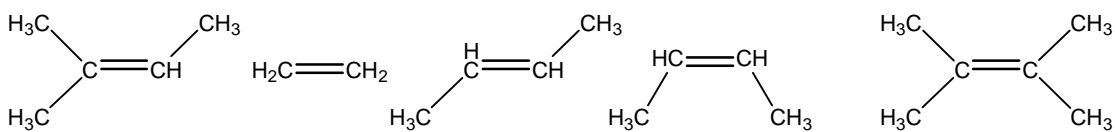
3. Determine whether the following compounds are E or Z isomers.



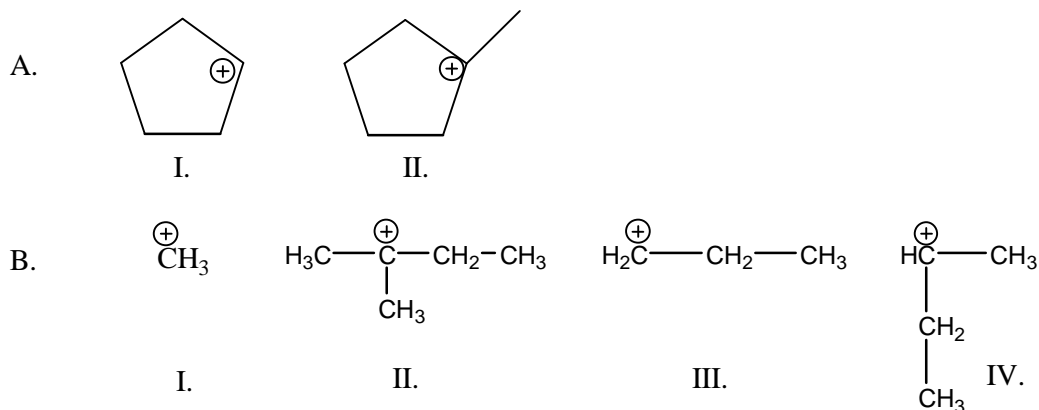
4. Determine the degree of unsaturation for the following substances.



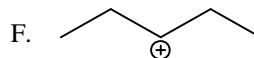
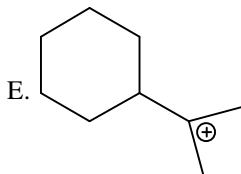
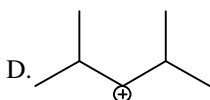
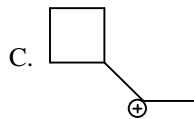
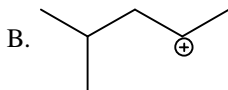
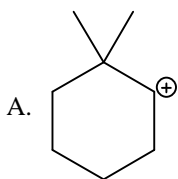
5. Place the following alkenes in order of stability.



6. Place the following carbocations in order of decreasing stability.



7. Which of the following carbocations are likely to rearrange? Show the rearrangement product where applicable.



8. Give the product(s) and mechanisms for the following reactions.

