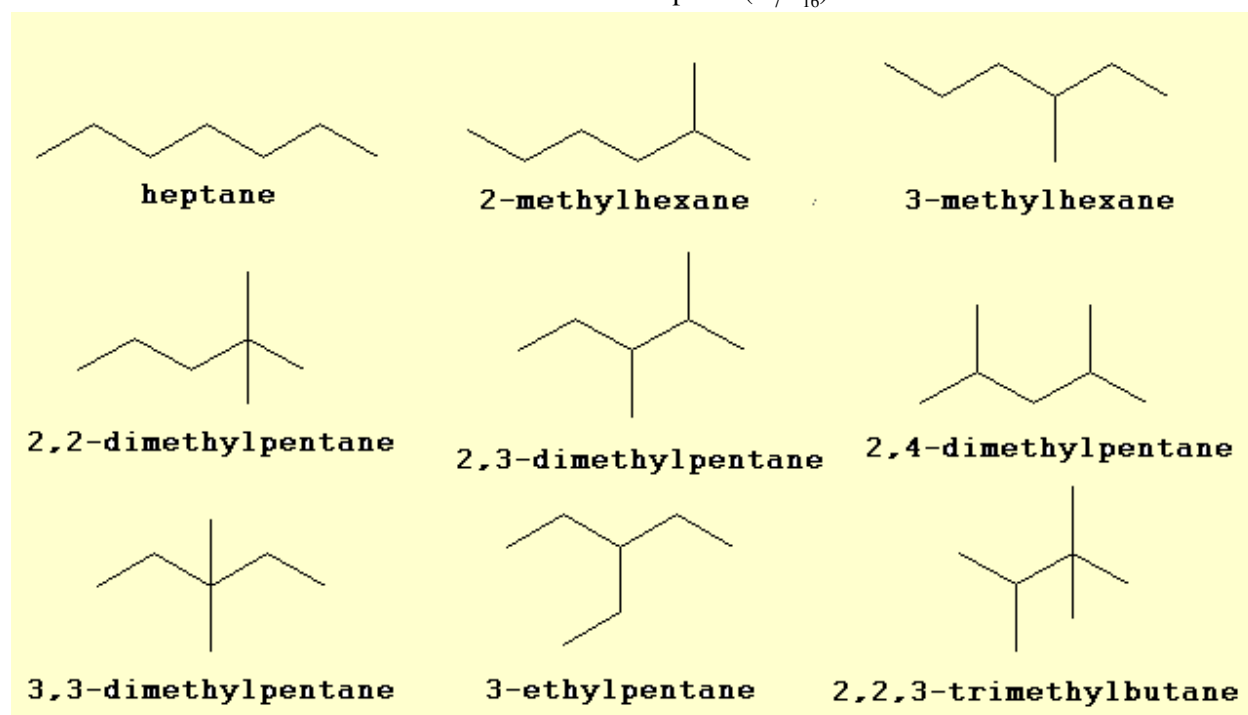
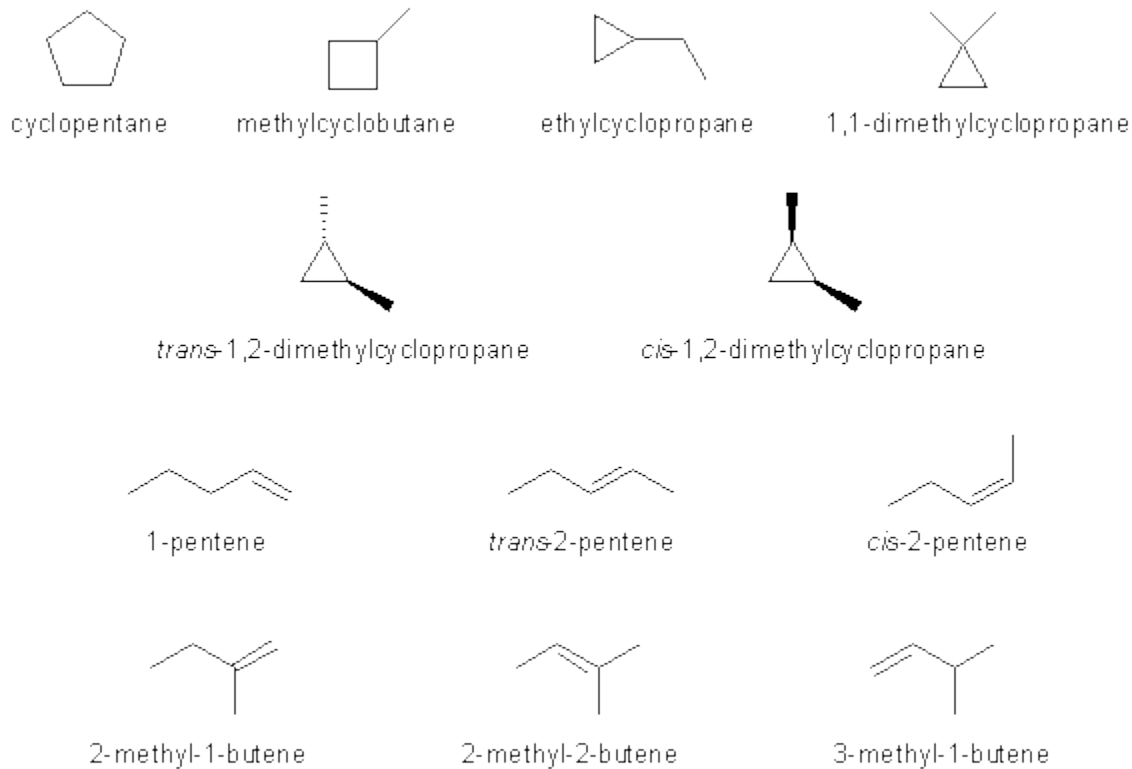


1. Draw and name the nine structural isomers of heptane (C₇H₁₆)



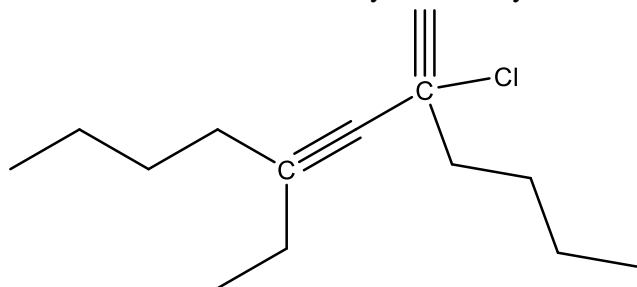
2. Draw all the structural isomers of C₅H₁₀. (Hint: there is either one double bond OR one ring; there are 12 isomers total) **10 are structural, 2 are geometric**



3. What is the difference between structural isomers and geometric isomers?

Structural isomers have different connectivity, while geometric isomers have the same connectivity but differ in their spatial, geometric position.

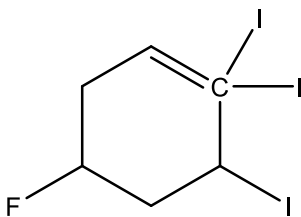
4. Draw the following structures below and find all the mistakes in the structure/name.
a. 2-chloro-2,4-dibutylhex-1,3-diyne.



Caution: Valence appears to be exceeded

Mistakes: parent chain is octane, branches are 2-chloro-2-butyl-4-ethyl, too many bonds on carbon 2 and 4.

- b. 6-fluoro-2,3,3-triodocyclohex-3-ene.

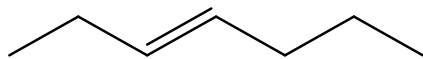


Caution: Valence appears to be exceeded

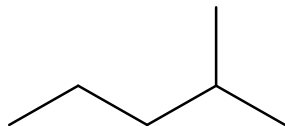
Mistakes: fluoro is on carbon 5, double bond is on carbon 1 (not 3), too many bonds on carbon 2.

8. Draw condensed structural formulas for the following:

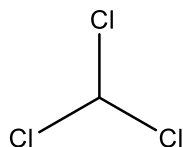
- a. Hept-3-ene



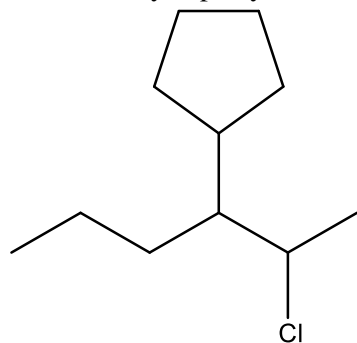
- b. 2-methylpentane



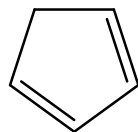
- c. Trichloromethane



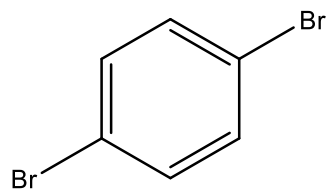
d. 2-chloro-3-cyclopentylhexane



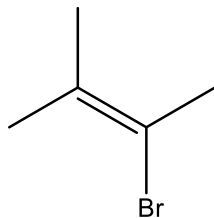
e. Cyclopenta-1,3-diene



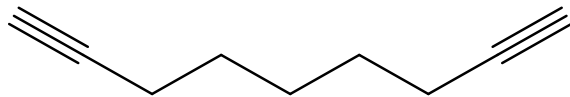
f. 1,4-dibromobenzene



g. 2-bromo-3-methylbut-2-ene



h. Nona-1,8-diyne



i. 3-methylpent-2-ene

