CHEM2320 Organic Chemistry Chapter 4 Naming Worksheet Name:_____

1. Write structures for the following alkenes. If the compound can show *cis-trans* isomerization or the name is ambiguous, clearly indicate which structure you have drawn. If the structure can show geometric isomerization, clearly indicate which structure you have drawn using the *cis-trans* system.
    a. 1-bromo-3-methylcyclohexane

    b. chlorocyclohexane

    c. 1,1-dibromo-2-chlorocyclopentane

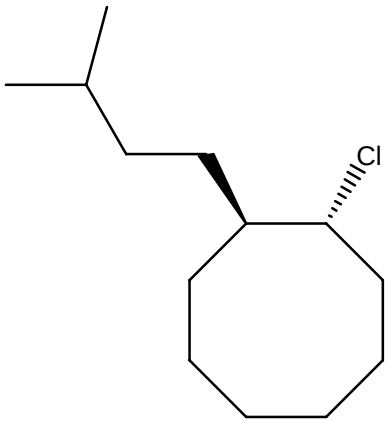
    d. ethylcyclooctane

    e. 1,1-dichloro-4-(3-methylhexyl)cyclooctane

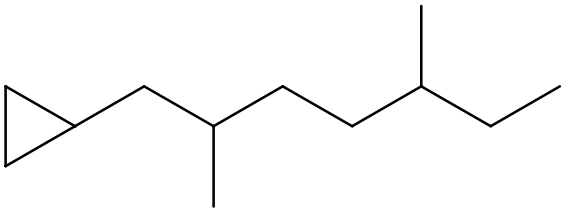
    f. isopropylcyclononane

2. Name the following compounds using the IUPAC nomenclature. You may substitute common names for side-chains as found in your lecture notes.

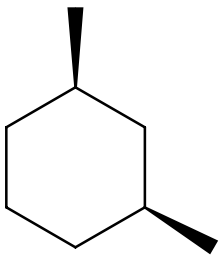
a.



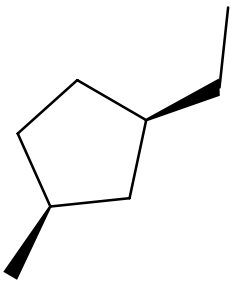
b.



c.



d.



3. Draw the most stable chair conformation of the following compounds:

    a. chlorocyclohexane

    b. *cis*-1-bromo-3-methylcyclohexane

    c. *trans*-1-bromo-3-methylcyclohexane

    d. *cis*-1-methyl-2-isopropylcyclohexane

    e. *trans*-1-methyl-2-isopropylcyclohexane