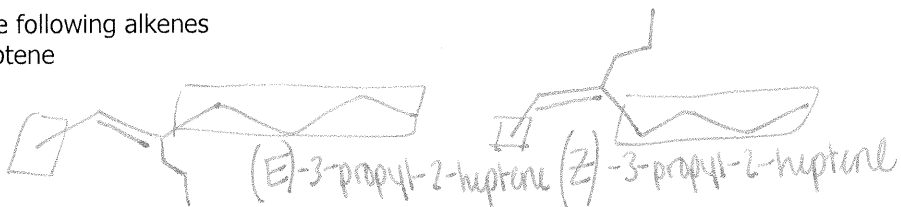


* Do not worry about cis-trans for cyclic compounds. Always cis-about double bond w/ substituents as far apart as possible in 3D-space

1. Draw structures for the following alkenes

a. 3-propyl-2-heptene

E/Z



b. 1,5-octadiene

cis-trans



c. 2,4-dimethyl-2-hexene

none



d. 4-methyl-1,3-pentadiene

none

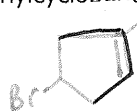


e. 3-ethyl-5-methyl-3-heptene

none

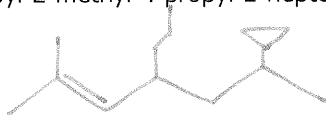


*f. 4-bromo-1-ethylcyclopentene



g. 6-cyclopropyl-2-methyl-4-propyl-2-heptene

none



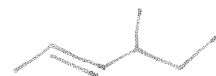
*h. 6-bromo-2-cyclopentyl-6-vinyl-1,3-cyclooctadiene



2. Give IUPAC, common names AND line-angle structures for the following alkenes:

a. $\text{CH}_3\text{CH}=\text{CHCH}(\text{CH}_3)\text{CH}_2\text{CH}_3$

cis/trans



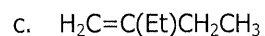
b. $\text{H}_2\text{C}=\text{C}=\text{CHCH}_3$

trans-4-methyl-2-hexene

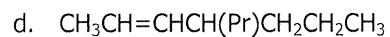


cis-4-methyl-2-hexene





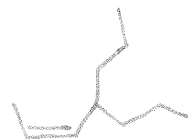
2-ethyl-1-butene



cis-trans

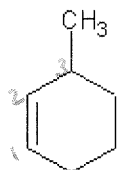


trans-4-propyl-2-heptene

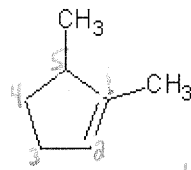


cis-4-propyl-2-heptene

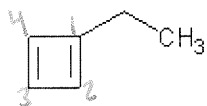
3. Name the following cycloalkenes by IUPAC rules:



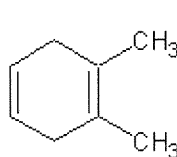
3-methylcyclohexene



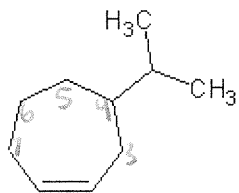
1,5-dimethylcyclopentene



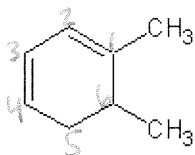
1-ethyl-1,3-cyclobutadiene



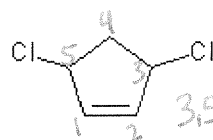
1,2-dimethyl-1,4-cyclohexadiene



4-isopropylcycloheptene



1,6-dimethyl-1,3-cyclohexadiene



3,5-dichlorocyclopentene