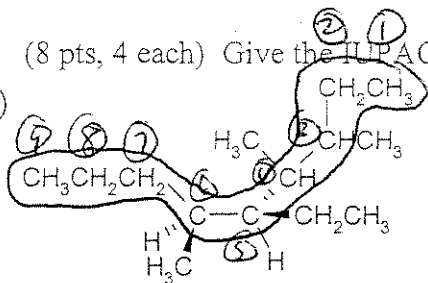
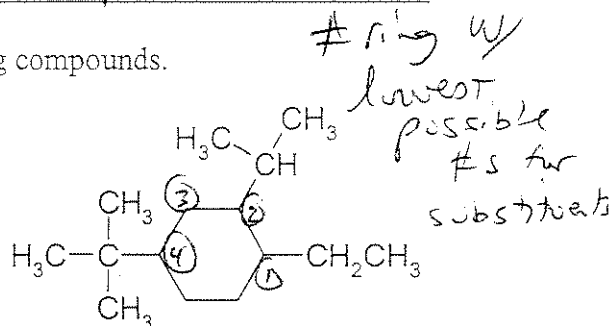


1. (8 pts, 4 each) Give the IUPAC name of the following compounds.

a)



b)



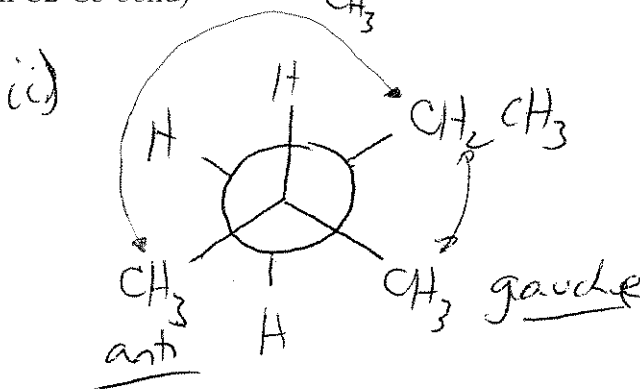
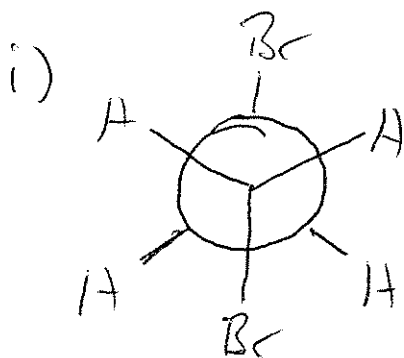
ring w/ lowest possible #s for substituents

5-ethyl-3,4,6-trimethylheptane

4-tert-butyl-1-ethyl-2-isopropylcyclohexane

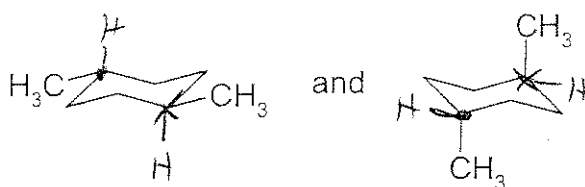
2. (8 pts) a) For the following molecules, draw the Newman projection of the lowest potential energy conformation sighting down the indicated bond. B) On the Newman projection for ii, label the methyl groups attached to C2 as anti or gauche.

- i) $\text{BrCH}_2\text{CH}_2\text{Br}$ (sighting down the C1-C2 bond)
 ii) 2-methylpentane (sighting down C2-C3 bond)



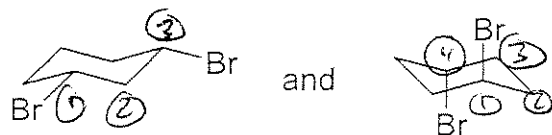
3. (4 pts, 2 each) What is the relationship between the following pairs of molecules? (constitutional isomers, different molecular formula, conformers, configurational stereoisomers)

a)



Conformers

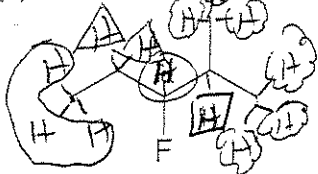
b)



Constitutional isomers

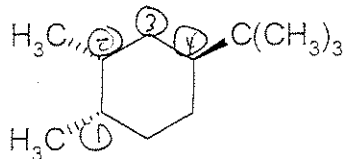
(Constitutional = structural) (also structural)

4. (1 pt) How many equivalent sets of hydrogen atoms are there in the following molecule?



5

5. (4 pts) Draw the following molecule in its lowest potential energy chair conformation. (Draw all hydrogen atoms and the alkyl group substituents).



Numerous ways to draw
The lowest P.E. chair form
correctly - but in all correct
cases ~~the~~ both 1-methyl group
must be equatorial

