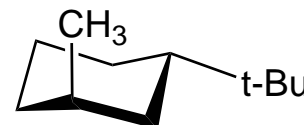
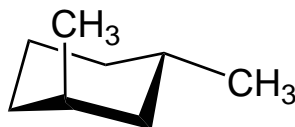
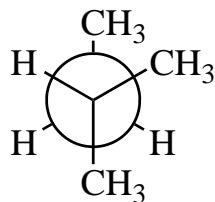
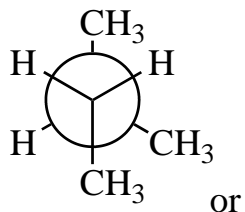


Ex 24 -Conformation

Question One

What is the most stable conformation of:

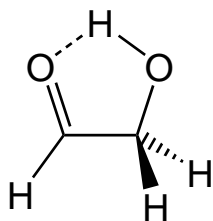
2-methylbutane trans-1,3-dimethylcyclohexane trans-1-t-butyl-3-methylcyclohexane?



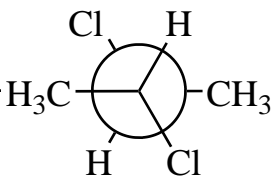
Question Two

It is possible to draw Newman projections for molecules in which one of the atoms involved is sp^2 hybridized. A couple of such are below: propanal and 3-hydroxypropanal in their most stable conformations. Why might this conformation of propanal be the best? And why would 3-hydroxypropanal be starkly different?

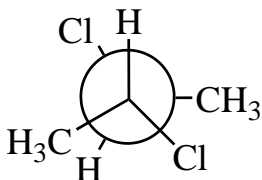
In propanal, this conformation staggers the O atom between the two Hs, anti to methyl. In the other molecule, this conformation allows for the formation of an intramolecular H-bond. Side view:



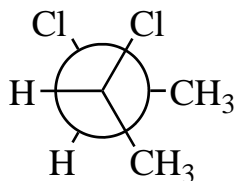
Question Four



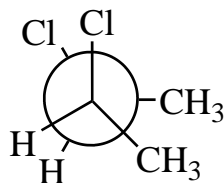
staggered, methyl anti, most stable



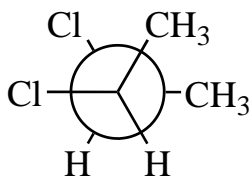
eclipsed, methyls syn to chloride, second least stable.



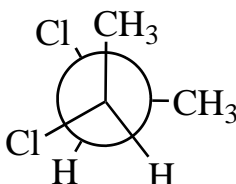
Staggered gauche.



eclipsed, methyls syn to methyls and, since methyls are largest, this is the least stable conformation.



Staggered gauche, again.



eclipsed, methyls syn to chloride, second least stable, again.