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 sp2 hybridized. A couple of such are below: propanal and 3-hydroxypropanal in there most stable conformations. Why might this conformation of propanal be the best? And why would 3-hydroxypropanal be starkly different?

Question Four

Sketch the conformation energy curve you'd expect for the molecule shown. Give the Newman diagrams for conformations every 60° starting with the conformation shown. You'll need to rotate this page 180 to use the attached chart. Assume that methyl is larger than chloride.

$$H_3C$$
 H
 Cl
 H
 Cl