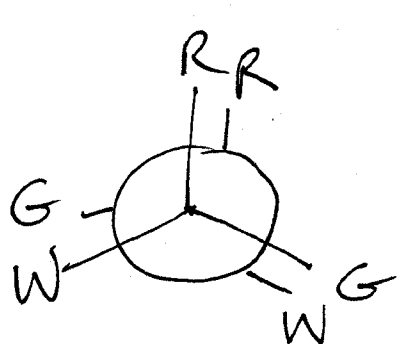
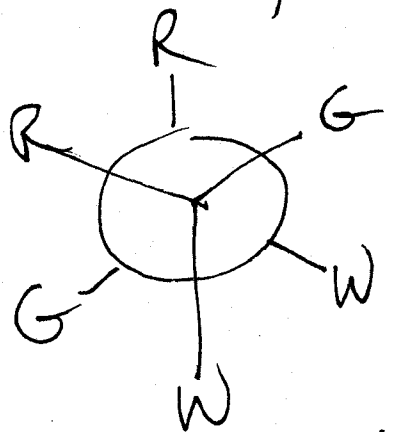


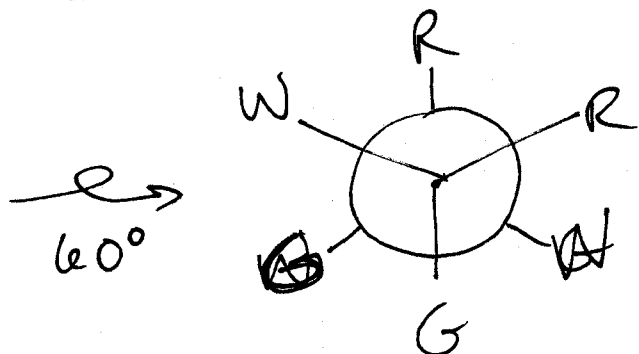
Newman Projections - a way of looking at different conformations of the same molecule.



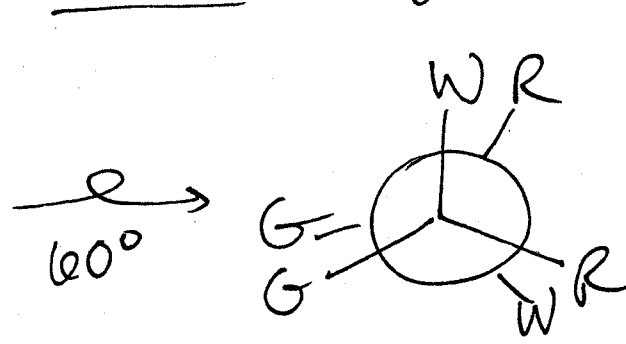
eclipsed
 \uparrow
 60°



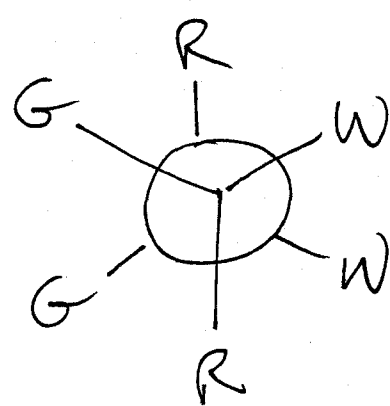
staggered



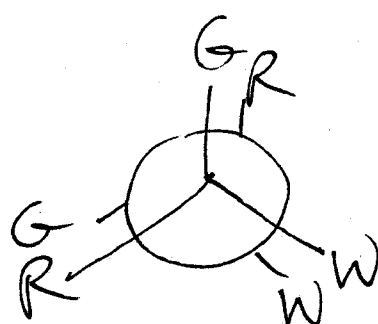
staggered



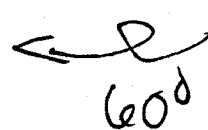
eclipsed
 \downarrow
 60°



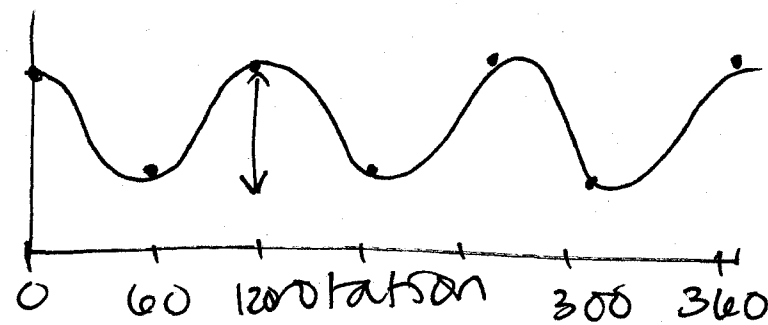
staggered



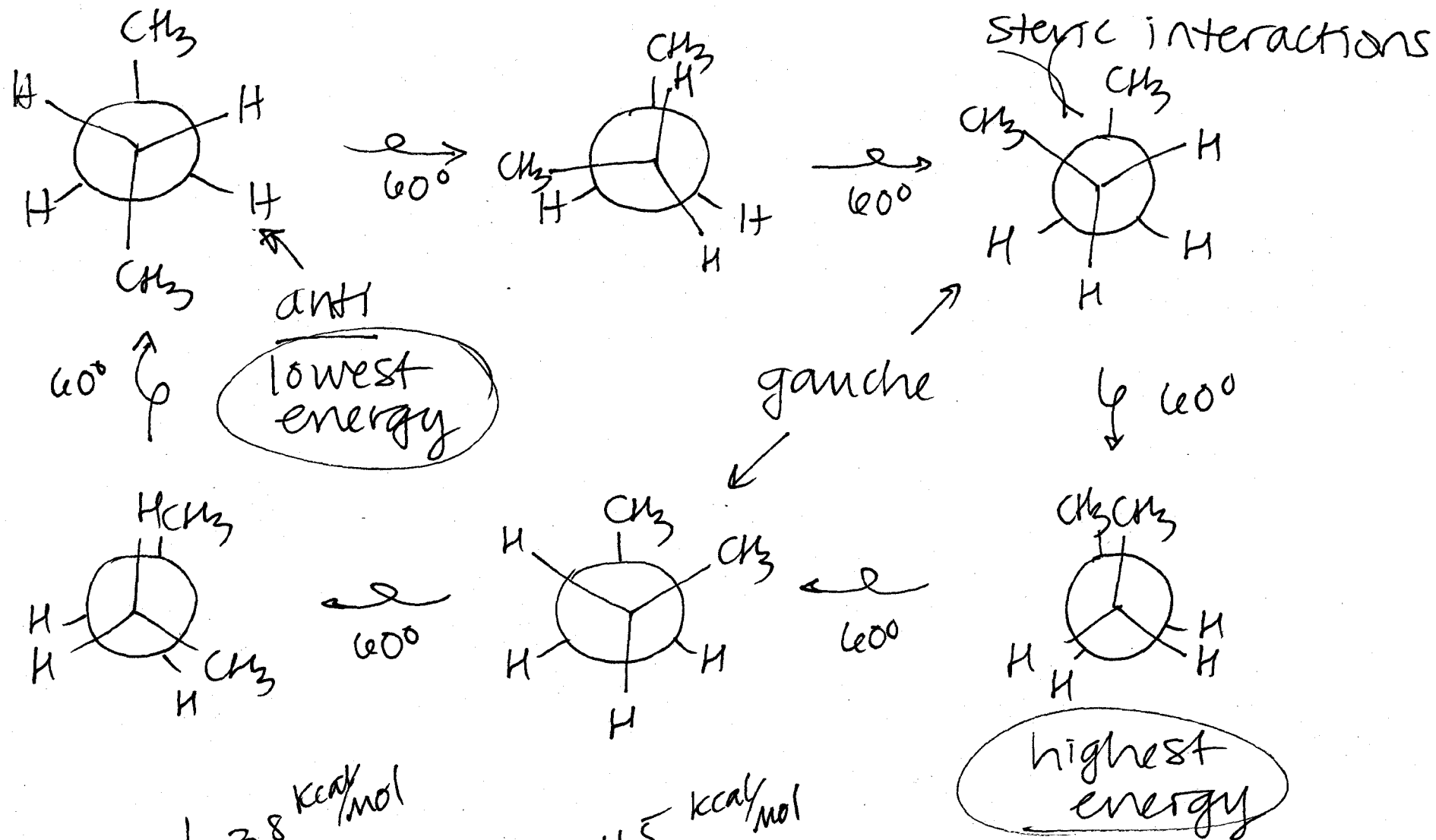
eclipsed



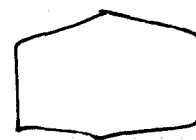
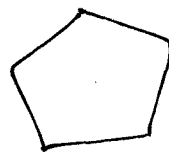
ethane:
 rotational
 barrier
 = 2.8 kcal/mol



rotational
 energy
 diagram



Conformations of Cyclic Alkanes



Initial thinking - small rings can't exist!

<u>Ring</u>	<u>Bond \angle</u>
3	60°
4	90°
5	~ 110
6	$\sim 120^\circ$
7	bigger yet

compare to
tetrahedral \angle
 109.5°

etc.
↓

* they assumed
all rings are
planar.

But they aren't.
(except cyclopropane)