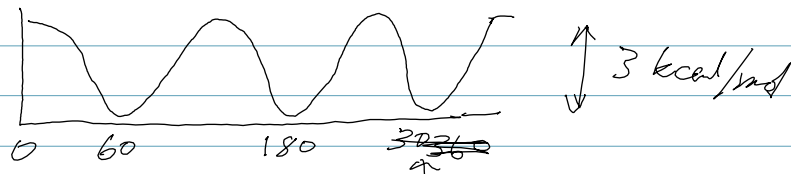


# Rotation about single, double & triple bonds

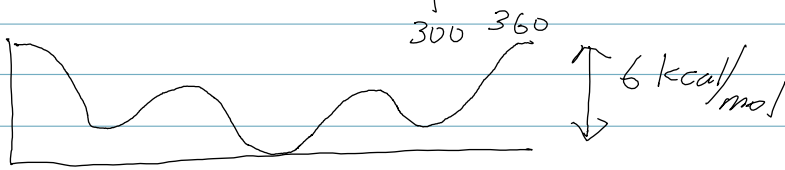
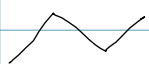
Alkanes - free rotation. Sample all  $\angle CCCC$   
 ↪ Non-cyclic

Different conformations (NOT true isomers!)

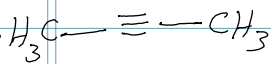
Ethane  $C_2H_6$   $\angle HCCH$



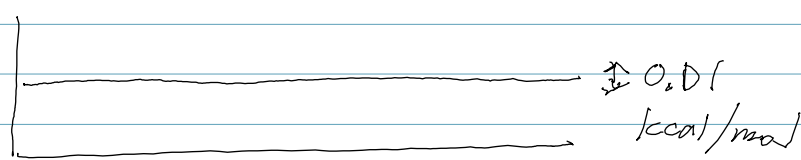
Butane  $C_4H_{10}$   $\angle CCCC$



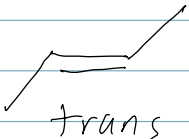
2-Butyne  $\angle CCCC$



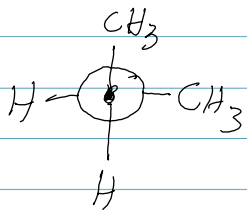
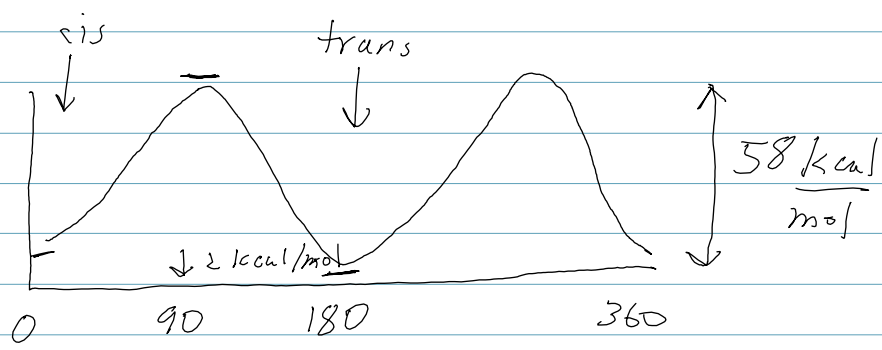
$\angle HC_1C_4H$



2-butene  $\angle CCCC$



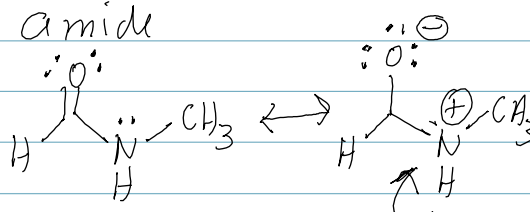
↑ geometrical (i.e. stereo-) isomers



do not interconvert put in bottles

} Need rot barrier  $\rightarrow$  30 kcal/mol

amide



↑ trigonal planar!

