

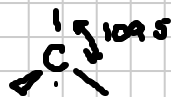
Lecture 24.1 Carbon and Structural Isomers

Note Title

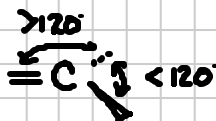
4/3/2012

Organic Chemistry. $C^x, N, O, H, Cl, F...$

Carbon: 4 bonds



Tetrahedral
 $\approx 109.5^\circ$
 sp^3 hybrid



Trigonal Planar
 $\approx 120^\circ$
 sp^2 hybrid



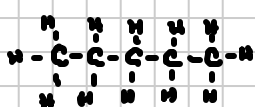
Linear
 $\approx 180^\circ$
 sp hybrid

Catenation: Carbon bonds to other carbons to form chains, rings, branched structures.

Structural Isomers: Same molecular formula... diff structures.

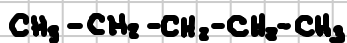
$C_n H_{2n+2} ... C_n H_{2n+2} ...$ single C,C bonds "Alkanes"

1) Structural formula

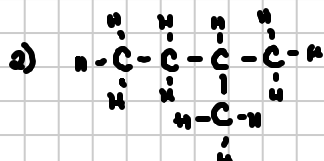
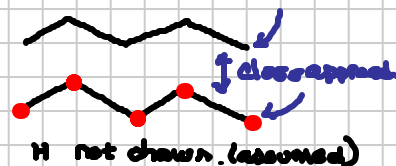


$T_b = 36^\circ C ...$ strong intermolecular forces.

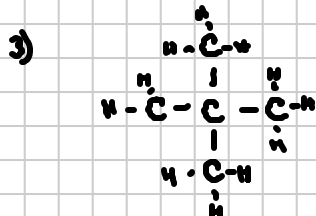
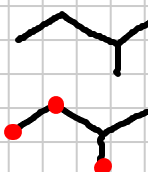
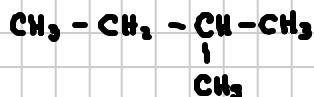
Condensed structural formula



Skeleton formula



$T_b = 28^\circ C$



$T_b = 9.6^\circ C ...$ weak intermolecular forces

