

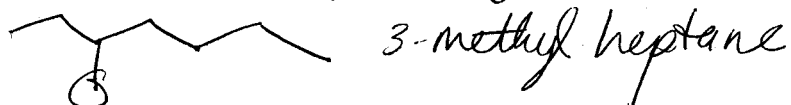
Course CH 343 Sec 003 Lecturer Sam Hellman
Day Friday 1:20 Date 9/16/11
Notes Taken By Alisia Phelps Total # of Pages 4

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Recall: Alkane nomenclature ...

Substituents ("appendages")

Ex:



General:

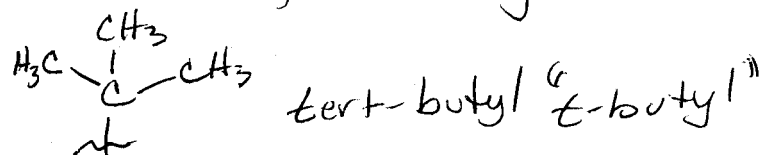
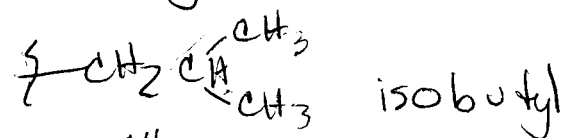
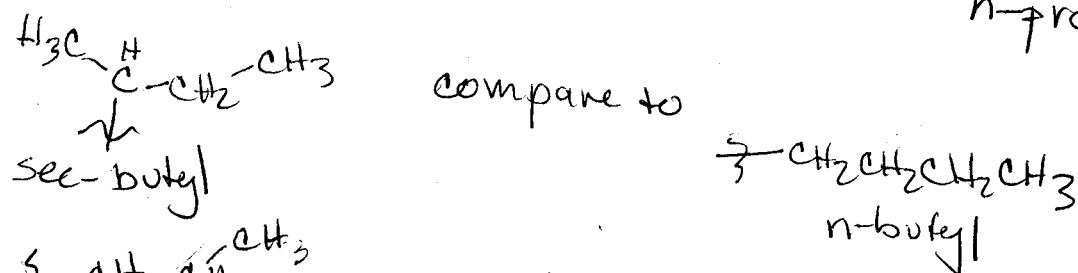
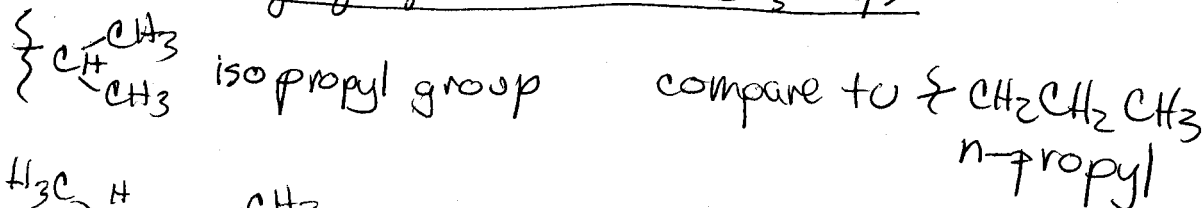
Alkane $\rightarrow$ Alkyl group

Ex:

Methane $\rightarrow$ methyl group



Branched alkyl fragment names ($\text{C}_3 + \text{C}_4$)



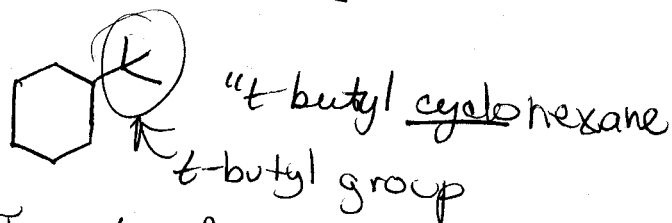
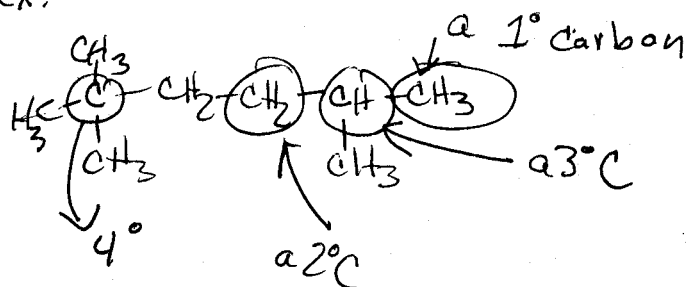
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Classification Scheme for C's in alkanes (+ other molecules)

- Based on # of bonding partners that are C.

- 4 Possibilities: 1° , 2° , 3° , 4°

Ex:



Functional Groups

- Clusters of atoms (often include atoms other than C+H) common; and show characteristic reactivity

Ex:

Z-OH Hydroxyl group

Alcohols - family of compounds

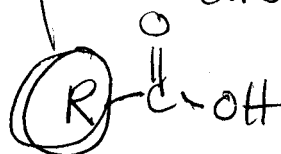
HOCH_2CH_3 : ethanol

$\text{HO}-\text{C}(\text{CH}_3)_2$: isopropanol (β -propanol)

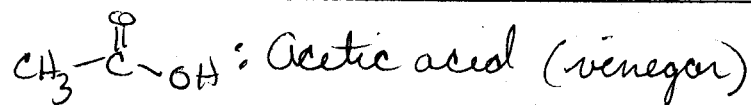
$\text{Z}-\text{C}(=\text{O})\text{OH}$ Carboxylic acid group

Carboxylic acids $\rightarrow$ family of compounds

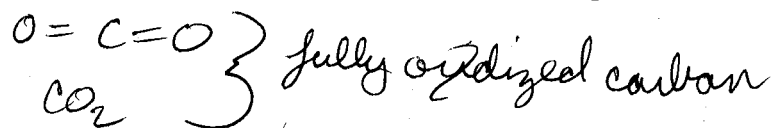
R = generic for
alkyl groups (or
carbon groups)



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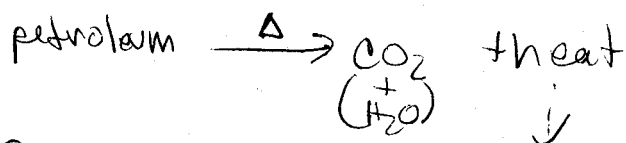


Overview - global carbon cycle

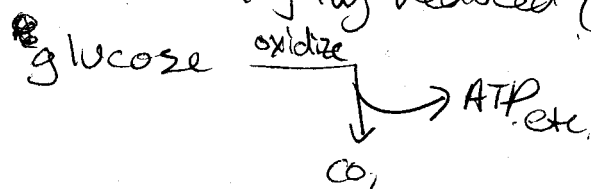
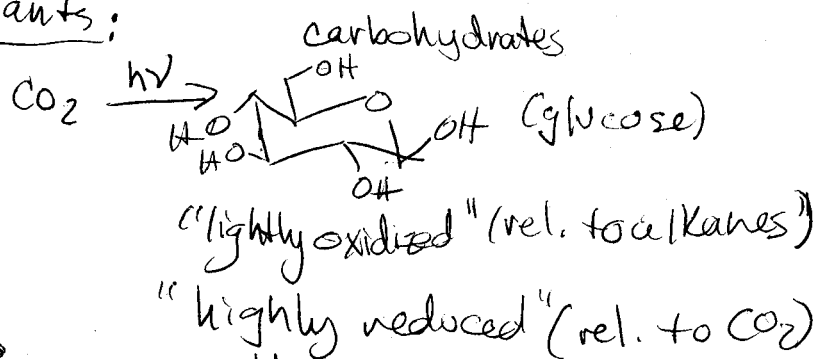


alkanes $\rightarrow$ fully reduced carbon

Petroleum - mix of alkanes + aromatics ()



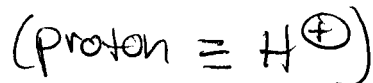
Plants:



Chapter 3 Acid-Base & related processes

Rec. Probs: 1-10, 15, 21, 24-37, 39, 42 a+c, 43-45, 49+50.

"Acid Base reactions" $\approx$ proton transfer



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$$\text{A-H} + \text{:B} \longrightarrow \text{A:}^- + \text{H-B}^+$$

(generic acid) generic base conjugate base of A-H conjugate acid of :B

→ focus on e^- pairs rather than on H^+ pair

Lewis acid: an electron pair species (e^- acceptor)

Lewis base: Rich species (e^- pair donor)

BF_3 $\text{F}-\text{B}-\text{F}$ $\text{Valence } 0$ $\rightarrow$ $\begin{array}{c} \text{F} \\ | \\ \text{F}-\text{B}-\text{F} \\ | \quad | \\ \text{F} \quad \text{F} \end{array}$ Lewis structure

Diagrammatic convention to convey how μ is accu
(slow of e^-)

⇒ curved answer to show flow

