

Announcements

- Turn on the Clicker (the red LED comes on).
- Push “Join” button followed by “20” followed by the “Send” button (switches to flashing green LED if successful).
- Flatulence lab handout is available in the lab handout section of the class web site.
- First Exam 1 week from today. (Sample exam on Web Site).
- Download and read the lab handout for the flatulence lab before your lab next week.
- Free tutors are available through CAR and I have some names for people willing to do private tutoring for a fee. See the Tutors section of the web site.
- Still not signed up for E-mail list: C. Larson, A. Robson-Domin, K. Vorpahl.

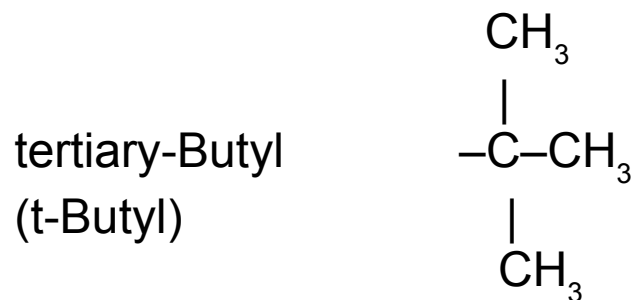
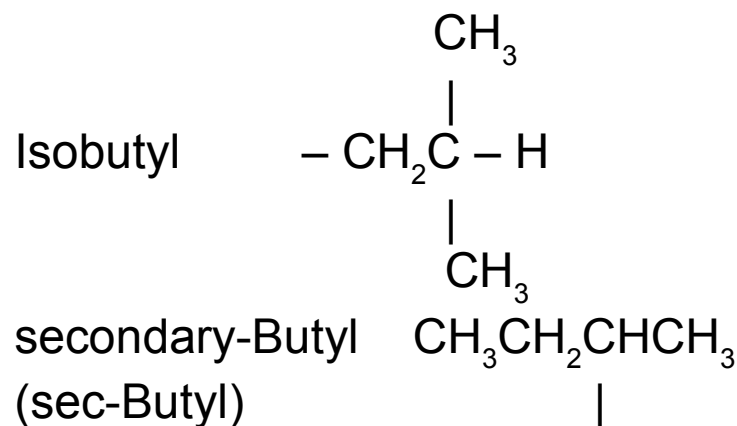
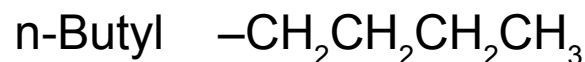
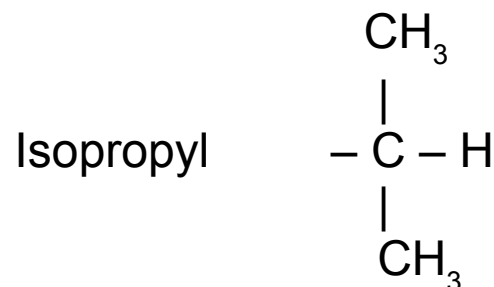
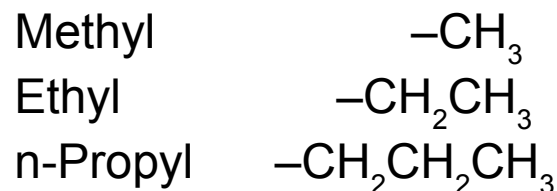
Review

- Petroleum is separated (refined) by fractional distillation.
 - Raoult's law $P_{\text{tot}} = X_1 P_1^{\circ} + X_2 P_2^{\circ} + \dots$ used to show how distillation works.
 - Branched alkanes are harder to ignite (higher octane)
 - cycloalkanes (other than 5 membered are puckered to maintain 109° sp^3 bond angles)
 - aromatic compounds (resonance = delocalization of π electrons = greater stability)
- Oxygenates also added to gasoline (alcohols and ethers).

Naming Branched Alkanes

Chang table 11.2

- 1) Find the longest chain (backbone).
- 2) Find the largest side group and number the backbone from the end nearest this side chain.
- 3) Use the numbers to indicate the positions of the side groups.
- 4) Alphabetize the side groups.



Alcohols and Ethers

- Alcohols (C-O-H)
 - Name by replacing -ane of the corresponding alkane with -ol.
- Examples:
 - CH_3OH = methanol
 - $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ = propanol

- Ethers (C-O-C)
 - Name by placing the names of the two alkyl groups in alphabetical order before the word ether.
 - Ignore the prefixes tert-, iso- and sec-.
- Examples
 - tert-butyl methyl ether
 - $(\text{CH}_3)_3\text{COCH}_3$

Starch and Cellulose

See carbohydrate handout for cartoon