

Announcements

Monday, April 20, 2009

Ch 10 MasteringChemistry due before class today.

Ch 18 MC due next Mon, Apr 27.

Quiz 3 will be this Wed, Apr 22 covering Ch 10 and 18

Discussion assignment 2:

- Phase 2 due next Mon, Apr 27.

Ch 10 practice - blank lab 5 on webpage

draw structures w/ correct shape

draw all dipole arrows \longleftrightarrow

molecule polar/nonpolar? net dipole moment

answer key in DZL content.

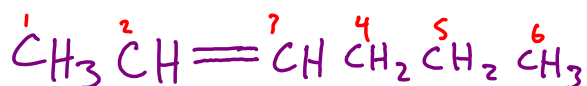
Struct of polyatomic ions ... (worksheet on webpage)

Ch 18: alkanes, alkenes, alkynes, alcohols

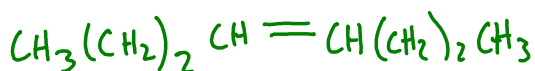
name, draw line or condensed structure

Alkenes and alkynes

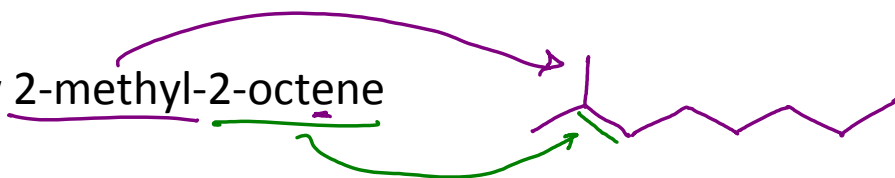
Draw 2-hexene:



Draw 4-octene:



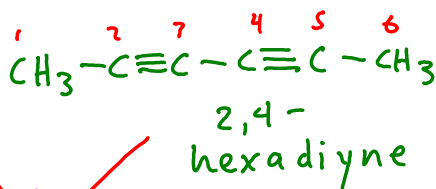
Draw 2-methyl-2-octene



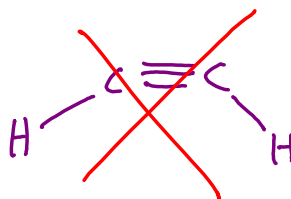
backbone
must contain the double bond

Alkynes

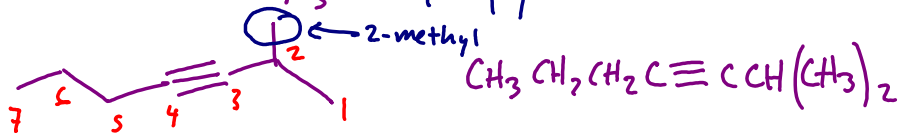
contain $\text{C}\equiv\text{C}$ triple bond



linear
shape on C



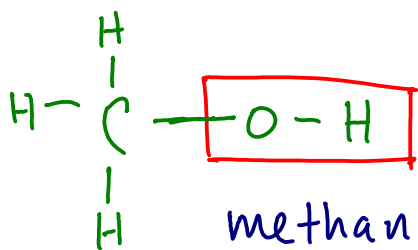
ethyne (2-carbon alkyne)



2-methyl-3-heptyne

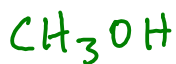
Alcohols

Alcohols contain a —O—H bonding group (-OH group)



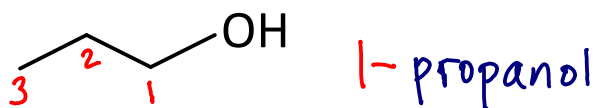
name ends in -anol

methanol

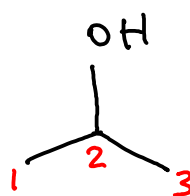


CH₃CH₂OH ethanol

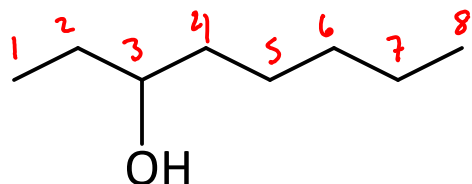
3 C's in this compound:



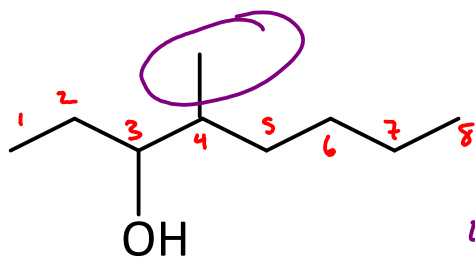
1-propanol



2-Propanol
(isopropyl alcohol)



3-octanol



4-methyl-3-octanol

Functional groups

Functional group: molecule fragment attached to a hydrocarbon that defines a type of organic molecule.

R: placeholder for any hydrocarbon group.

TABLE 18.7 Functional Groups

Family	General Formula	Condensed General Formula	Example	Name
alcohols	$\text{R}-\text{OH}$	ROH	$\text{CH}_3\text{CH}_2-\text{OH}$	ethanol (ethyl alcohol)
ethers	$\text{R}-\text{O}-\text{R}$	ROR	$\text{CH}_3-\text{O}-\text{CH}_3$	dimethyl ether
aldehydes	$\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$	RCHO	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$	ethanal (acetaldehyde)
ketones	$\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}$	RCOR	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$	propanone (acetone)
carboxylic acids	$\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$	RCOOH	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$	acetic acid
esters	$\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OR}$	RCOOR	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OCH}_3$	methyl acetate
amines	$\text{R}-\overset{\text{R}}{\underset{\text{H}}{\text{N}}}-\text{R}$	R_3N	$\text{H}_3\text{CH}_2\text{C}-\overset{\text{H}}{\underset{\text{H}}{\text{N}}}-\text{H}$	ethyl amine

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We discussed naming and drawing of:

- Alkanes (with backbone up to 10 carbons)
- Alkenes (ignore *cis* and *trans*)
- Alkynes
- Alcohols