

# Oct 29 Ch 8 Intro to Alkyl Halides, Alcohols, ethers, thiols, and Sulfides

① hydrocarbons  $R-H \xrightarrow{\text{Gr different}} \text{substitution of } -H \text{ w/ a heteroatom (non-C or -H atoms)}$

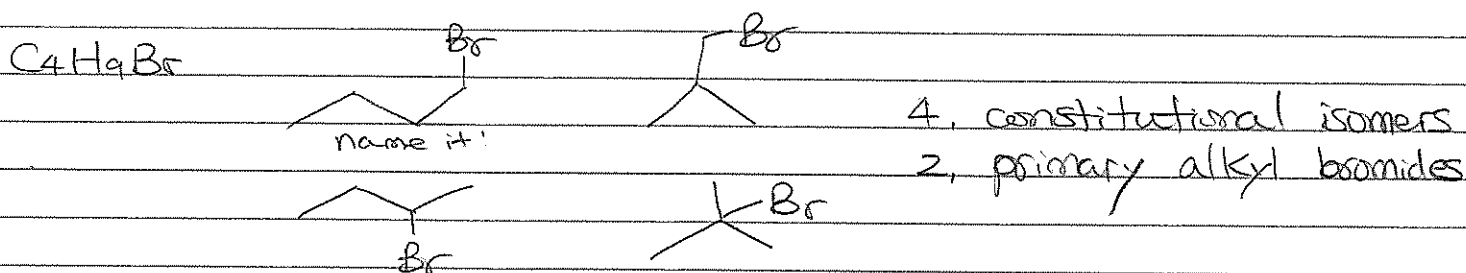
$R-X$	$X = F, Cl, Br, I$	Alkyl halides
	$X = -OH$	$R-OH$ , alcohols;
	$X = -OR'$	$R-OR'$ , ethers;
	$X = -SH$	$R-SH$ , thiols (thio + alcohol)
		mercaptans (mercurium captans <sup>Gr, sulfur</sup> mercury capturing)
	$X = -SR'$	$R-SR'$ , sulfide or thioether

R group

- CH<sub>3</sub> methyl
- CH<sub>2</sub>CH<sub>3</sub> primary
- CH- secondary
- C- tertiary

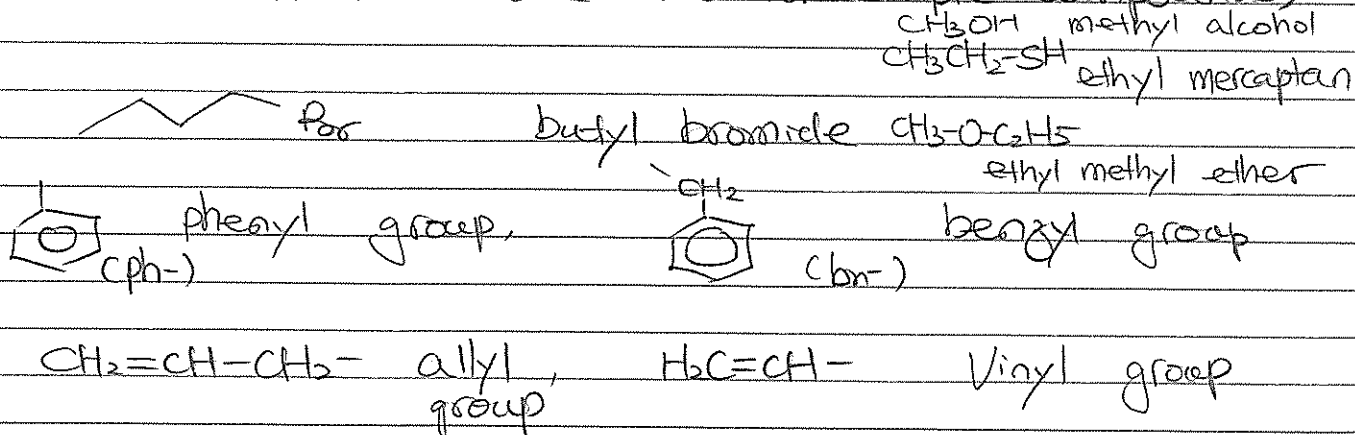
These different groups of compounds are considered together because their chemical reactions are closely related

introduction of different functional groups causes different isomers (Clicker Question)

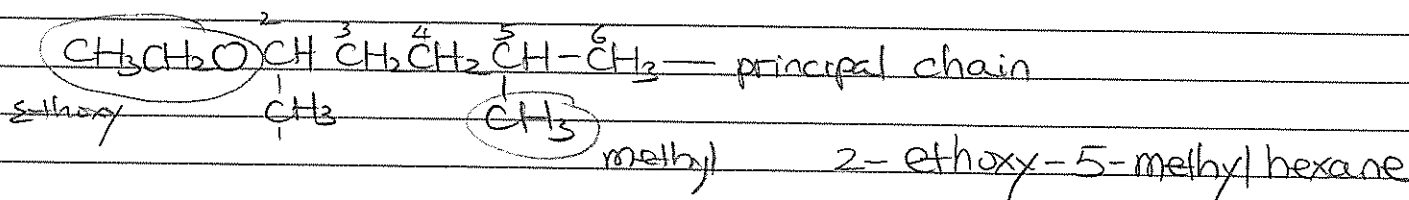
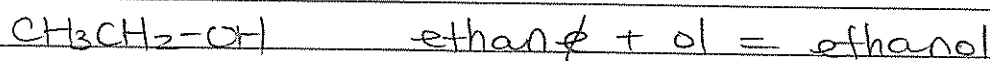


## ② Nomenclature

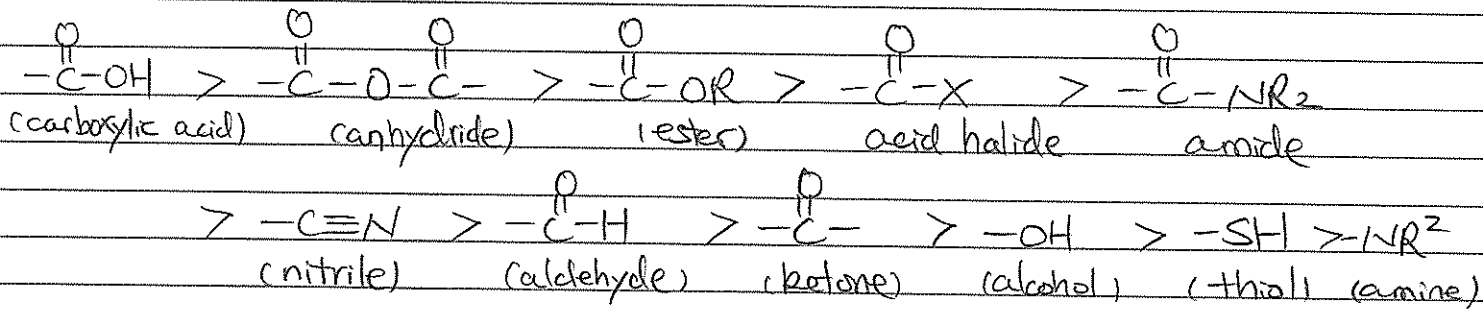
A. common nomenclature (used for simple compounds)



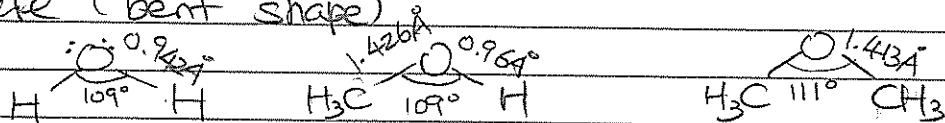
B. Substitutive nomenclature (read page 327)



priority as principal group: Appendix I (page A-1)



③ structure (bent shape)



If you think of the lone pair electrons as a bond, they are still close to the tetrahedron shape.

Table 8.1. bond lengths: R-X

F		increasing bond length
Cl		
Br		
I		