Introduction to Organic Functional Groups

- alkanes hydrocarbons with only sp³-hybridized carbons (all single bonds). All (except the cycloalkanes) have the molecular formula C_nH_{2n+2} .
- alkenes hydrocarbons that contain a carbon-carbon double bond (sp²-hybridized C).
- alkynes hydrocarbons that contain a carbon-carbon triple bond (sp-hybridized C).
- amines "relative" of NH₃ where there is at least one carbon-nitrogen single bond (sp³-hybridized C and N).
- alcohols "relative" of H₂O where *only one* H is replaced with a C.
- ethers "relative" of H₂O in which *both* H's are replaced by C's.
- epoxides (also called oxiranes) contain a CCO 3-membered ring.

• thiols (also called mercaptans) – S replaces O of alcohol

Carbonyl (C=O) containing functional groups

• aldehydes

• ketones

• carboxylic acids

• esters

• amides

• nitriles