

Functional groups:

• Hydrocarbons \Rightarrow hydrophobic

- Form most organic molecules
- chains of C + H

eg: Methane
CH₄

• Alcohols \Rightarrow hydrophilic

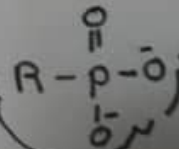
- characterized by a hydroxyl group (OH)
- Alcohols are good fuels

eg: Ethanol
CH₃CH₂OH

• Organic phosphates \Rightarrow hydrophilic

- characterized by phosphate group
- Organic phosphates are usually acidic
- can be found in ATP and DNA
(P \rightarrow 5 bonds)

eg:
phosphate



• Carboxylic acids \Rightarrow hydrophilic

- characterized by carboxyl group ($\text{C}(\text{O})-\text{OH}$)
- referred to as organic acids
- weak acids that are often (aromatic)

eg: acetic acid
CH₃COOH

• **Amines** \Rightarrow hydrophilic

- characterized amino group (NH_2)

- water soluble weak bases

(($\text{N} \rightarrow 3$ bonds))

eg:

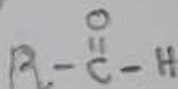
Ammonia

NH_3

• **Aldehydes** \Rightarrow hydrophilic

- characterized by an aldehyde group ($-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$)

eg: aldehyde



• **Ketones** \Rightarrow hydrophilic

- characterized by a ketone group ($-\overset{\text{O}}{\parallel}{\text{C}}-$)

- Many steroids contain ketones

eg: acetone

