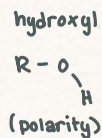
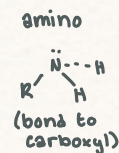
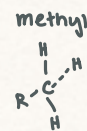
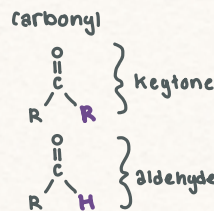
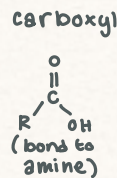


life is built on carbon due to its four valence electrons



functional groups give carbon based molecules particular functions

Functional groups:



Polymers are made up of monomers

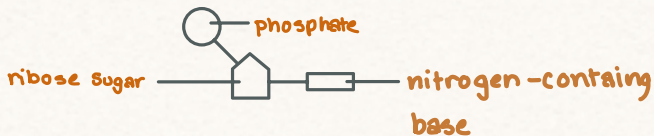


- form through dehydration synthesis (remove H<sub>2</sub>O)  
- break down through hydrolysis (add H<sub>2</sub>O)

Nucleic acids

→ DNA } polymeres  
→ RNA }

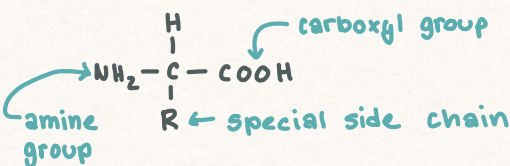
- made up of nucleotides } monomers



DNA	RNA
- deoxyribose sugar	- ribose sugar
- purines: guanine, adenine	- purines: guanine, adenine
- pyrimidines: cytosine, thymine	- pyrimidines: cytosine, uracil

Proteins

- amino acid monomers: 20 total



- R group side chain properties determine how structure folds  
↳ can be polar, hydrophilic, charged, or special cases

special R chains:



- amino acid chains form according to DNA instructions

possible structures: primary, secondary, tertiary, quaternary

lipids

- mostly hydro carbons (fatty acid chains)

Saturated



unsaturated



- can condense

e.g. oil

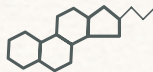
- Kinky (will not condense)

e.g. butter

hydrophobic

types of lipids:

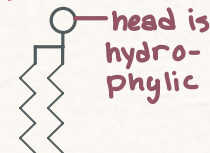
cholesterol



triglyceride



phospholipid



Carbohydrates

→ monosaccharides e.g. glucose



→ disaccharides e.g. sucrose



→ polysaccharides (polymers)

