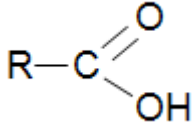


Biochemistry Notes

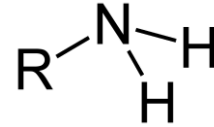
C = _____ → It's good at making _____ → _____ of them

Functional Groups:

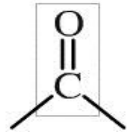
Carboxyl



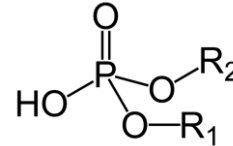
Amino



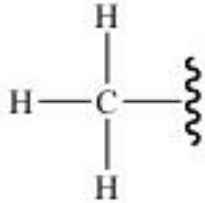
Carbonyl



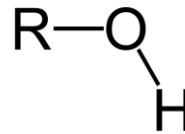
Phosphate



Methyl



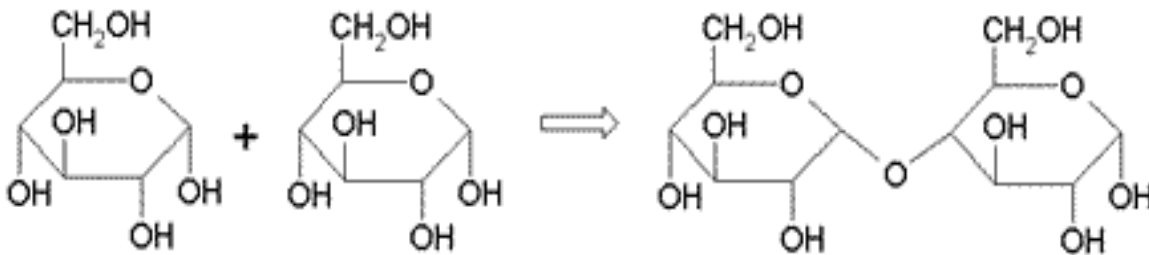
Hydroxyl



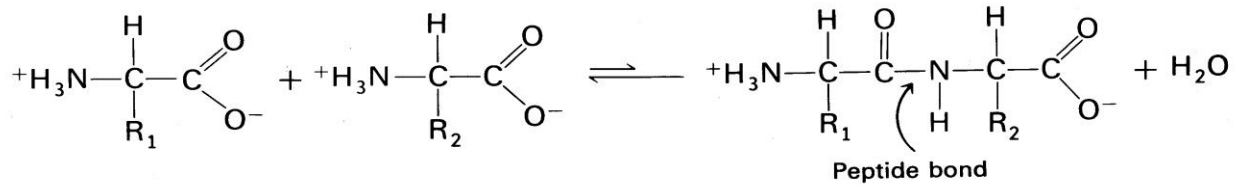
Each functional group has its own properties. The properties of a molecule are influenced by the functional groups it has

Polymers → are made up of chains of → _____

_____ = Putting subunits together by removing water

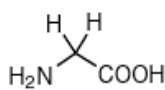


Making proteins:

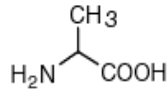


Amino Acids: 20 of 'em in most living things

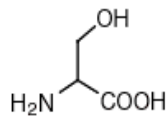
Small



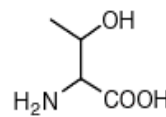
Glycine (Gly, G)
MW: 57.05



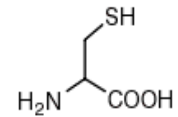
Alanine (Ala, A)
MW: 71.09



Serine (Ser, S)
MW: 87.08, pK_a ~ 16



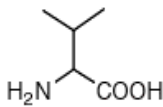
Threonine (Thr, T)
MW: 101.11, pK_a ~ 16



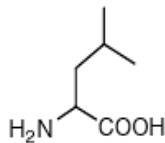
Cysteine (Cys, C)
MW: 103.15, pK_a = 8.35

Nucleophilic

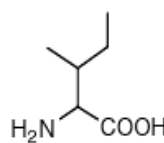
Hydrophobic



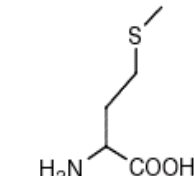
Valine (Val, V)
MW: 99.14



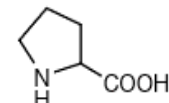
Leucine (Leu, L)
MW: 113.16



Isoleucine (Ile, I)
MW: 113.16

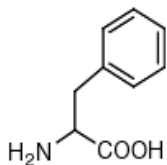


Methionine (Met, M)
MW: 131.19

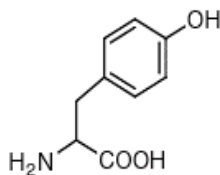


Proline (Pro, P)
MW: 97.12

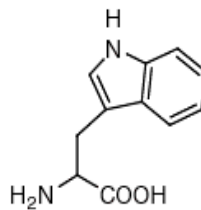
Aromatic



Phenylalanine (Phe, F)
MW: 147.18

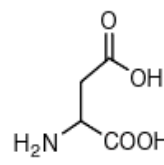


Tyrosine (Tyr, Y)
MW: 163.18

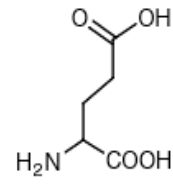


Tryptophan (Trp, W)
MW: 186.21

Acidic

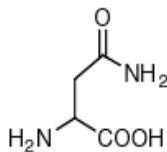


Aspartic Acid (Asp, D)
MW: 115.09, pK_a = 3.9

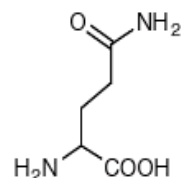


Glutamic Acid (Glu, E)
MW: 129.12, pK_a = 4.07

Amide

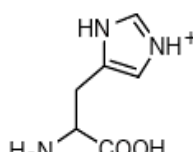


Asparagine (Asn, N)
MW: 114.11

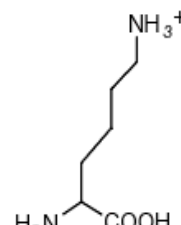


Glutamine (Gln, Q)
MW: 128.14

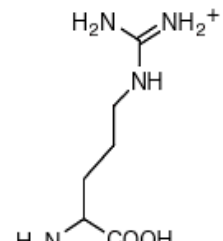
Basic



Histidine (His, H)
MW: 137.14, pK_a = 6.04



Lysine (Lys, K)
MW: 128.17, pK_a = 10.79

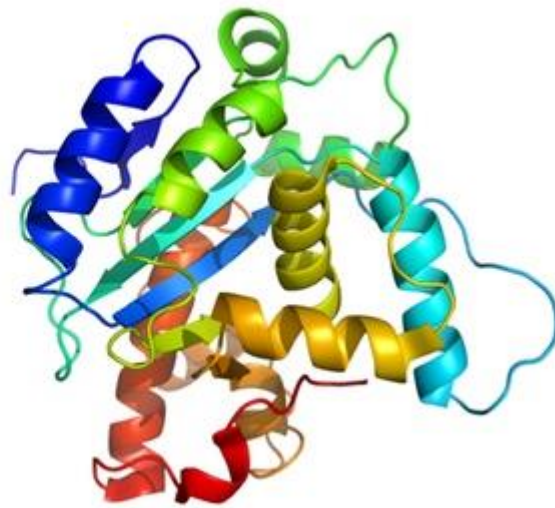
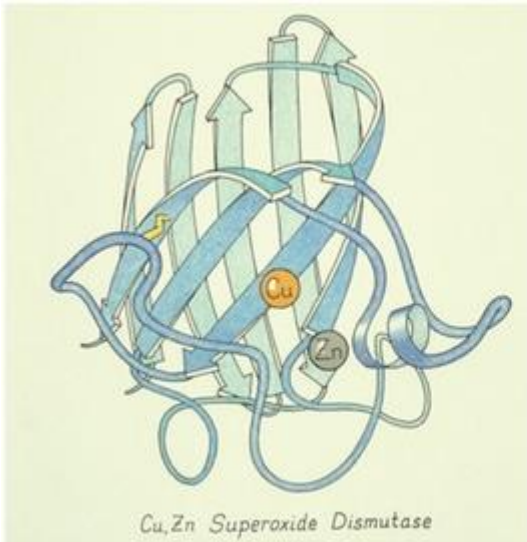


Arginine (Arg, R)
MW: 156.19, pK_a = 12.48

Modern Biology



Protein Shapes:



“Taking it all apart”

Hydrolysis =

