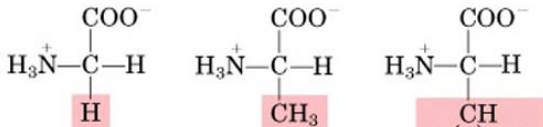


Twenty standard Amino Acids

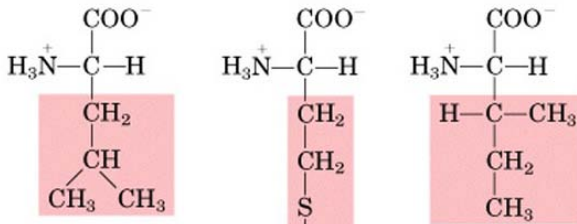
Nonpolar, aliphatic R groups



Glycine

Alanine

Valine

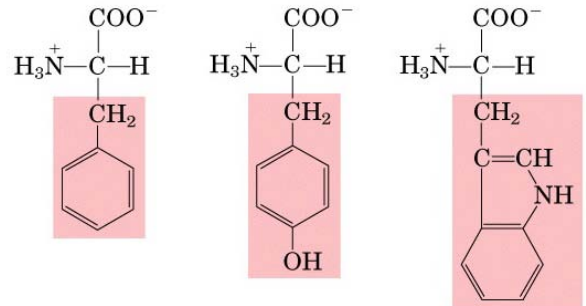


Leucine

Methionine

Isoleucine

Aromatic R groups

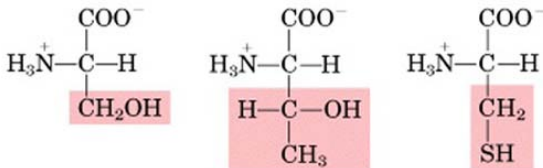


Phenylalanine

Tyrosine

Tryptophan

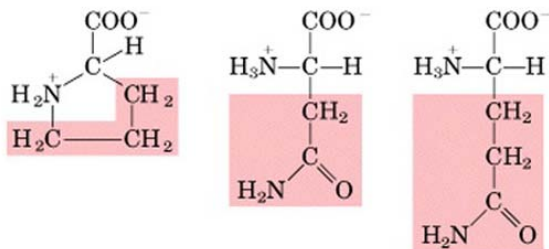
Polar, uncharged R groups



Serine

Threonine

Cysteine

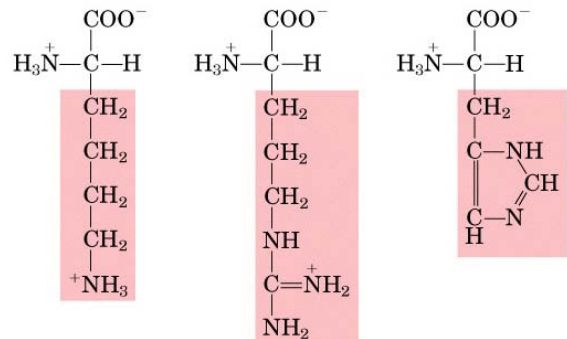


Proline

Asparagine

Glutamine

Positively charged R groups

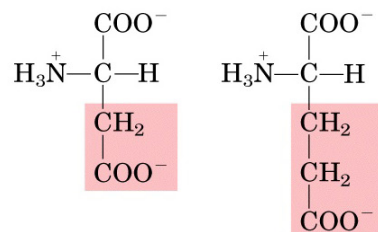


Lysine

Arginine

Histidine

Negatively charged R groups



Aspartate

Glutamate

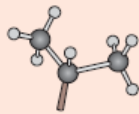
○ Hydrogen ● Carbon ● Oxygen ● Sulfur ● Nitrogen | bond to functional group (R) | double bond | partial double bond | single bond



Hydrophobic



Alanine
Ala
A



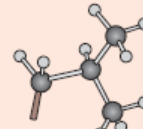
Valine
Val
V



Phenylalanine
Phe
F



Proline
Pro
P

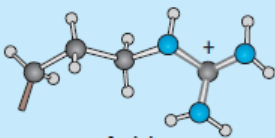


Leucine
Leu
L

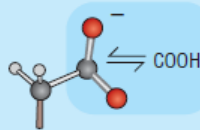


Isoleucine
Ile
I

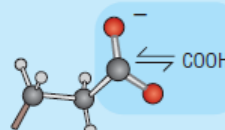
Hydrophilic



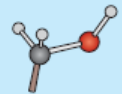
Arginine
Arg
R



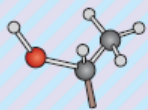
Aspartic acid
Asp
D



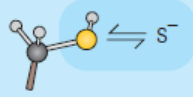
Glutamic acid
Glu
E



Serine
Ser
S



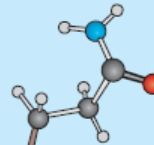
Threonine
Thr
T



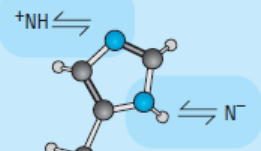
Cysteine
Cys
C



Asparagine
Asn
N



Glutamine
Gln
Q



Histidine
His
H

Amphipathic

