Alanine (Ala/A)	COO^- $H_3\overset{+}{N}-C-H$ CH_3 Nonpolar, aliphatic R Groups
Arginine (Arg/R)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 CH_2 CH_2 NH $C=\overset{+}{N}H_2$ NH_2 Positively charged R groups
Asparagine (Asn/N)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 C H_2N O Polar, uncharged R groups
Aspartate (Asp/D)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 COO^- Negatively charged R groups
Cysteine (Cys/C)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 SH Polar, uncharged R groups
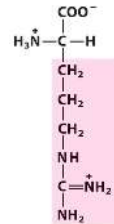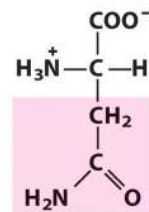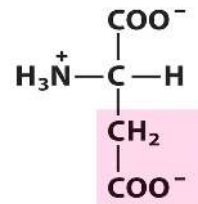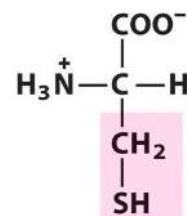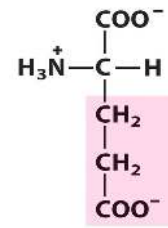
Glutamate (Glu/E)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 CH_2 COO^- Negatively charged R groups
Glutamine (Gln/Q)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 CH_2 C H_2N O Polar, uncharged R groups
Glycine (Gly/G)	COO^- $H_3\overset{+}{N}-C-H$ H Nonpolar, aliphatic R Groups
Histidine (His/H)	COO^- $H_3\overset{+}{N}-C-H$ CH_2 $C-NH$ $\parallel$ CH $C-N$ H Positively charged R groups
Isoleucine (Ile/I)	COO^- $H_3\overset{+}{N}-C-H$ $H-C-CH_3$ CH_2 CH_3 Nonpolar, aliphatic R Groups
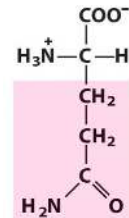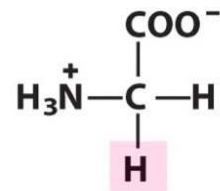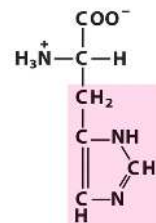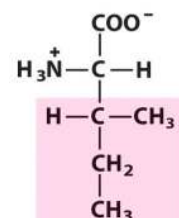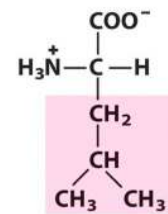
Leucine (Leu/L)	H_3N^+-C-H with COO^-, side chain $CH_2-CH-(CH_3)(CH_3)$ Nonpolar, aliphatic R Groups
Lysine (Lys/K)	H_3N^+-C-H with COO^-, side chain $CH_2-CH_2-CH_2-CH_2-{}^+NH_3$ Positively charged R groups
Methionine (Met/M)	H_3N^+-C-H with COO^-, side chain $CH_2-CH_2-S-CH_3$ Nonpolar, aliphatic R Groups
Phenylalanine (Phe/F)	H_3N^+-C-H with COO^-, side chain CH_2-phenyl ring Aromatic R groups
Proline (Pro/P)	H_2N^+-C-H with COO^-, ring $H_2C-CH_2-CH_2$ Nonpolar, aliphatic R Groups
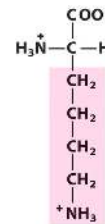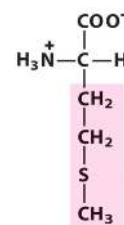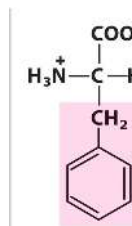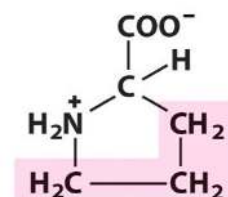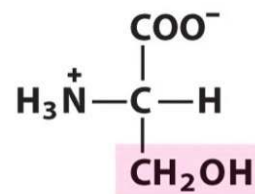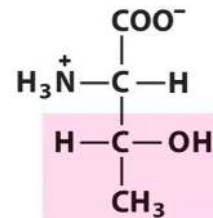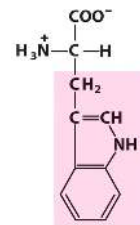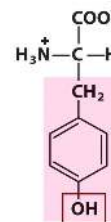
Serine (Ser/S)	$H_3\overset{+}{N}-\underset{\underset{\displaystyle CH_2OH}{\vert}}{\overset{\overset{\displaystyle COO^-}{\vert}}{C}}-H$ Polar, uncharged R groups
Threonine (Thr/T)	$H_3\overset{+}{N}-\underset{\underset{\displaystyle CH_3}{\vert}}{\overset{\overset{\displaystyle COO^-}{\vert}}{\underset{H-C-OH}{C}}}-H$ Polar, uncharged R groups
Tryptophan (Trp/W)	Aromatic R groups
Tyrosine (Tyr/Y)	Aromatic R groups
Valine (Val/V)	$H_3\overset{+}{N}-\underset{\underset{\displaystyle CH_3 \quad CH_3}{\underset{\displaystyle CH}{\vert}}}{\overset{\overset{\displaystyle COO^-}{\vert}}{C}}-H$ Nonpolar, aliphatic R Groups