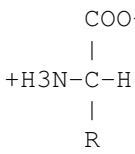
Amino Acid	CODE	Functional Group	Notes
Alanine	(A=Ala)	R=CH3	
Arginine	(R=Arg)	R=CH2CH2CH2NHCNHNH3	
Asperagine	(N=Asn)	R=CH2CONH2	
Aspartate	(D=Asp)	R=CH2COO-	
Cysteine	(C=Cys)	R=CH2SH	
Glutamine	(Q=Gln)	R=CH2CH2CONH2	
Glutamate	(E=Glu)	R=CH2CH2COO-	
Glycine	(G=Gly)	R=H	
Histidine	(H=His)	R=CH2C3N2H3H+	(5 member ring)
Isoleucine	(I=Ile)	R=CH(CH3)CH2CH3	
Leucine	(L=Leu)	R=CH2CH(CH3)2	
Lysine	(K=Lys)	R=CH2CH2CH2CH2NH3+	
Methionine	(M=Met)	R=CH2CH2SCH3	
Phenylalanine	(F=Phe)	R=CH2C6H5	(6 member ring)
Proline	(P=Pro)	R=CH2CH2CH2-->amine group	(5 member ring linking back to amine group)
Serine	(S=Ser)	R=COH3	
Threonine	(T=Thr)	R=COH2CH3	
Tryptophan	(W=Trp)	R=CH2(CCHNH[C6H4])	(double ring [5 member and 6 member rings])
Tyrosine	(Y=Tyr)	R=CH2(C6H4OH)	(6 member ring)
Valine	(V=Val)	R=CH(CH3)2	

Base Amino Acid



Three Peptide Bonds (Each bond releases H2O when formed)