

# Amino Acid Sidechain List

- Dual Color Scheme:**
1. Name and background shading indicates hydrophobic amino acids (yellow); hydrophilic non-charged amino acids (white); + charged amino acids (blue); - charged amino acids (red); cysteine (green).
  2. Atom type indicates carbon (gray), oxygen (red), nitrogen (blue), and sulfur (yellow).

Name	Amino Acid	Sidechain	Name	Amino Acid	Sidechain	Name	Amino Acid	Sidechain	Name	Amino Acid	Sidechain
Alanine	Ala	A	Glutamine	Gln	Q	Leucine	Leu	L	Serine	Ser	S
	<chem>CC(N)C(=O)[O-]</chem>			<chem>NC(=O)CC(N)C(=O)[O-]</chem>			<chem>CC(C)CC(N)C(=O)[O-]</chem>			<chem>OC(C)C(N)C(=O)[O-]</chem>	
Arginine	Arg	R	Glutamic Acid	Glu	E	Lysine	Lys	K	Threonine	Thr	T
	<chem>NC(=[NH2+])NCCCN(N)C(=O)[O-]</chem>			<chem>OC(=O)CC(N)C(=O)[O-]</chem>			<chem>NC(=[NH3+])CCCC(N)C(=O)[O-]</chem>			<chem>CC(O)C(N)C(=O)[O-]</chem>	
Asparagine	Asn	N	Glycine	Gly	G	Methionine	Met	M	Tryptophan	Trp	W
	<chem>NC(=O)CC(N)C(=O)[O-]</chem>			<chem>NC(N)C(=O)[O-]</chem>			<chem>CC(S)CC(N)C(=O)[O-]</chem>			<chem>C1=CC=C2C(=C1)C(=CN2)CC(N)C(=O)[O-]</chem>	
Aspartic Acid	Asp	D	Histidine	His	H	Phenylalanine	Phe	F	Tyrosine	Tyr	Y
	<chem>OC(=O)CC(N)C(=O)[O-]</chem>			<chem>C1=CN=C[NH+]1CC(N)C(=O)[O-]</chem>			<chem>C1=CC=CC=C1CC(N)C(=O)[O-]</chem>			<chem>OC1=CC=C(C=C1)CC(N)C(=O)[O-]</chem>	
Cysteine	Cys	C	Isoleucine	Ile	I	Proline	Pro	P	Valine	Val	V
	<chem>SCC(N)C(=O)[O-]</chem>			<chem>CC(C)C(C)C(N)C(=O)[O-]</chem>			<chem>C1CCNCC1</chem>			<chem>CC(C)C(N)C(=O)[O-]</chem>	

