

# Amino Acid Information

Sorted by Isotopic Mass

letter	three letter code	full name	R	Rank	mass: gly	composition	average mass	c	h	n	basic	Hydrophobic	Polar
W	Trp	Tryptophan		1 (rank)	3.3x Gly	C11H10N2O	186.21	C11	H1	N2		HP	
Y	Tyr	Tyrosine	-Ph-OH	2 (rank)	2.9x Gly	C9H9NO2	163.17	C9	H9				P
R	Arg	Arginine		3 (rank)	2.7x Gly	C6H12N4O	156.19	C6	H1	N4	B		
F	Phe	Phenylalanine		4 (rank)	2.6x Gly	C9H9NO	147.18	C9	H9			HP	
H	His	Histidine		5 (rank)	2.4x Gly	C6H7N3O	137.14	C6	H7	N3	B		
M	Met	Methionine		6 (rank)	2.3x Gly	C5H9NOS	131.2	C5	H9			HP	
E	Glu	Glutamic Acid		7 (rank)	2.3x Gly	C5H7NO3	129.12	C5	H7		A		
K	Lys	Lysine		8 (rank)	2.2x Gly	C6H12N2O	128.17	C6	H1	N2	B		
Q	Gln	Glutamine		9 (rank)	2.2x Gly	C5H8N2O2	128.13	C5	H8	N2			
D	Asp	Aspartic Acid		10 (rank)	2.0x Gly	C4H5NO3	115.09	C4	H5		A		
N	Asn	Asparagine		11 (rank)	2.0x Gly	C4H6N2O2	114.1	C4	H6	N2			
I	Ile	Isoleucine		12 (rank)	2.0x Gly	C6H11NO	113.16	C6	H1				
L	Leu	Leucine	-C-C(C)C	12 (rank)	2.0x Gly	C6H11NO	113.16	C6	H1				
C	Cys	Cysteine		14 (rank)	1.8x Gly	C3H5NOS	103.14	C3	H5				
T	Thr	Threonine		15 (rank)	1.8x Gly	C4H7NO2	101.11	C4	H7				P
V	Val	Valine		16 (rank)	1.7x Gly	C5H9NO	99.13	C5	H9				
P	Pro	Proline		17 (rank)	1.7x Gly	C5H7NO	97.12	C5	H7				
S	Ser	Serine		18 (rank)	1.5x Gly	C3H5NO2	87.08	C3	H5				P
A	Ala	Alanine	-Me	19 (rank)	1.2x Gly	C3H5NO	71.08	C3	H5				
G	Gly	Glycine	-H	20 (rank)	1.0x Gly	C2H3NO	57.05	C2	H3			HP	
*	[*]	Stop											

letter	three letter code	full name	R	Rank	mass: gly	composition	average mass	c	h	n	basic	Hydrophobic	Polar
X	[X]	Unknown											

## R-Chains

Glycine:

\*[H]

### Alanine

\*C

### Valine

\*C(C)(C)

### Threonine

\*C(C)(O)

### Asparagine

\*CC(=O)(N)

### Aspartate

\*C(N)CC(=O)O

### Glutamate

\*CCC(=O)O

### Glutamine

\*CCC(=O)N

### Phenylalanine

\*cc1ccccc1

### Tyrosine

\*c1ccc(cc1)O

**Tryptophan**

```
*Cc1c2ccccc2Nc1
```

Butt



**Syntax error in graph**  
mermaid version 8.13.4