

Amino acid mnemonics for the biology olympiad

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AMINO ACID REVIEW HANDOUT

MNEMONICS FOR AMINO ACID PROPERTIES

GLAMP TVIP = nonpolar, hydrophobic – Glycine, Leucine, Alanine, Methionine, Phenylalanine, Tryptophan, Valine, Isoleucine, Proline

TCSy-TAG – like cyborg, charged – Tyrosine, Cysteine, Serine, Threonine, Asparagine, Glutamine

Acidic, there's only 2 – Glutamate, Aspartate

Basic – HALElujiah – Histidine, Arginine, Lysine

Aromatic – P^fTT, since they have a smell – Phenylalanine, Tyrosine, Tryptophan

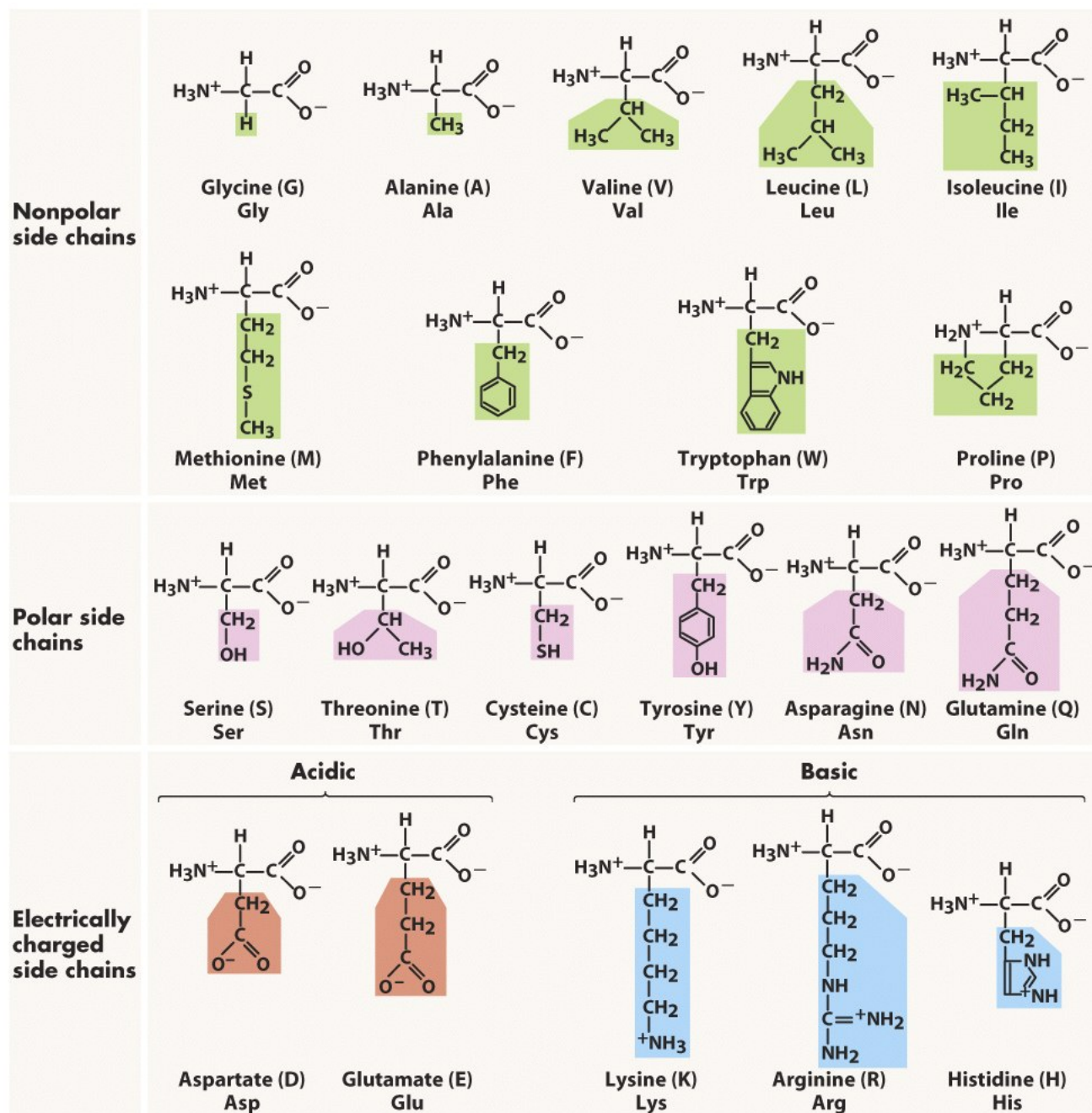


Figure 3-5 Biological Science, 2/e

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ONE LETTER ABBREVIATION EXCEPTIONS

There some some amino acids which do not use the first letter of the amino acid name as their abbreviation. These include:

K = lysine

Think 'Klysine'

Y = tyrosine.

Think 't**Y**rosine

D = aspartic acid

Think 'aspar**D**ic acid'

Q = glutamine.

Think '**Q**-tamine'

R = arginine.

Think '**R**-ginine'

E = glutamic acid.

Think 'glut**E**mic' acid'

F = phenylalanine

Think '**F**enylalanine'

N = asparagine

Think '**N**asparagine'

W = tryptophan

Think 't**W**yptophan'.

Another useful memory aid is below:

Non-polar aliphatic amino acids:

FVIP WGLAM:

Phenylalanine (F)

(V)aline

(I)soleucine

(P)roline

Tryptophan (W)

(G)lycine

(L)eucine

(A)lanine

(M)ethionine

Polar uncharged amino acids:

SanTa Never Quits ChrYstmas:

(S)erine

(T)hreonine

Asparagi(N)e

Glutamine (Q)

- (C)ysteine

- T(Y)rosine

Aromatic: WhifFY

Tryptophan (W), Phenylalanine (F), t(Y)rosine

Having -OH groups:

Can be phosphorylated

STaY

(S)erine, (T)hreonine, T(Y)rosine

Charged:

Acidic

DEath is always negative (-)

Aspartate (D), Glutamate (E)

Basic:

'His Lies Are Basic' or **BAHRK** (pronounced as bark)

(H)istidine, Lysine (K), A(R)ginine

ONE LETTER ABBREVIATIONS FOR AMINO ACIDS

Aromatic amino acids: **WFY** (read as "wifey"). WFY always smells good!

W (Tryptophan)

F (Phenylalanine)

Y (Tyrosine).

Polar amino acids:

QSCYNT:

Q: Glutamine

S: Serine

◦ C: Cysteine

◦ Y: Tyrosine

N: Asparagine

T: Threonine

Nonpolar, Nonaromatic **AVGLIMP** (pronounce it like it's spelled)

Polar **STQNC** (pronounce it like "stick Nick")

Aromatic **WYF** (pronounce like "wife", a woman who is aromatic (?) lol)

+ve **RKH** (I just remember RKH)

-ve **ED** ("Ed")

Hydrophobic **FLAVI** (like the virus)

Hydrophilic **REKHN** (like "reckon" but also pronounce the H)

SPECIAL FEATURES OF AMINO ACIDS

To find out about special features of amino acids, get our printable amino acid review [handout](#).



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