

Solutions to:

Amino Acids Practice Quiz

(C) LEAH4SCI

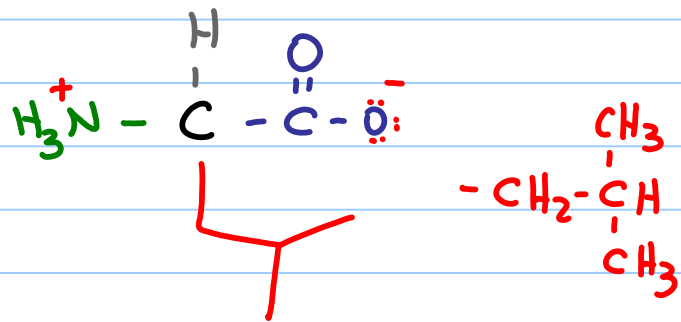
Tutorial/video series + cheat sheet

LEAH4SCI.COM/AMINOACIDS

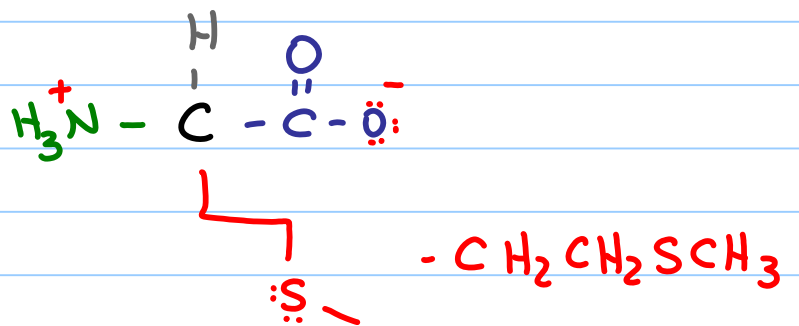
Step by step answers + explanations
link on final page

Part 1a at pH = 7

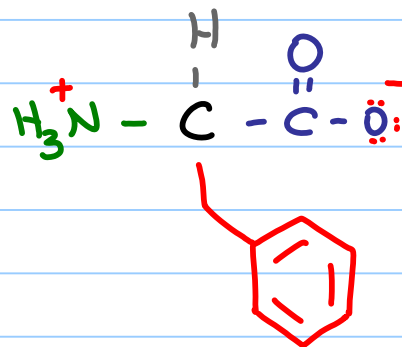
Leucine



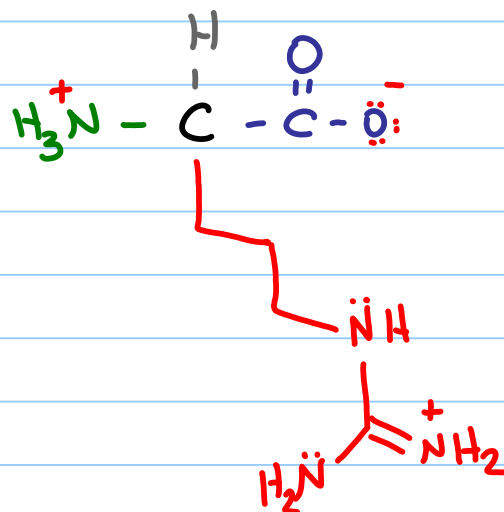
Methionine



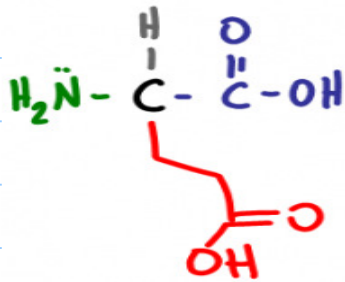
phenylalanine



Arginine



Part 1b - Naming

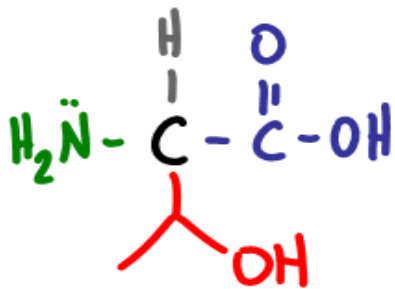
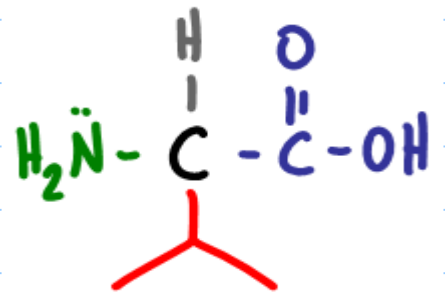


Glutamic Acid
(Glutamate [⊖])

Glu E

Valine

Val V

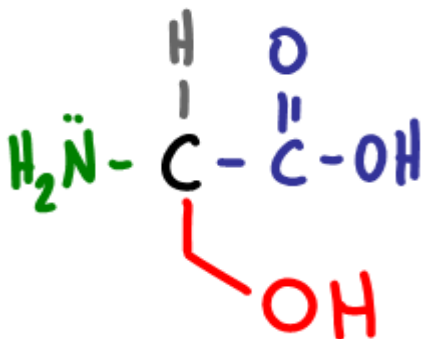
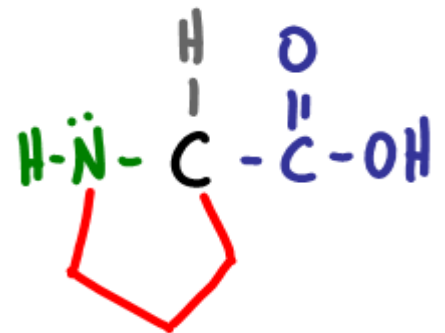


Threonine

Thr T

Proline

Pro P



Serine

Ser S

Part 1C

MQATWERK

M - Met hydrophobic, Neutral, Non-polar

Q - Gln hydrophilic, Neutral, polar

A - Ala hydrophobic, Aliphatic, non-polar, neutral

T - Thr hydrophilic, neutral, polar

W - Trp hydrophobic, Aromatic, neutral, Non-polar

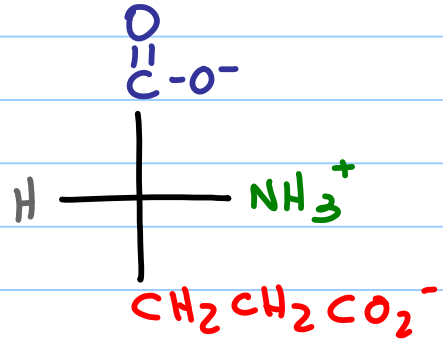
E - Glu hydrophilic, polar-acidic, - charge \uparrow pH

R - Arg hydrophilic, polar-basic, + charge \downarrow pH

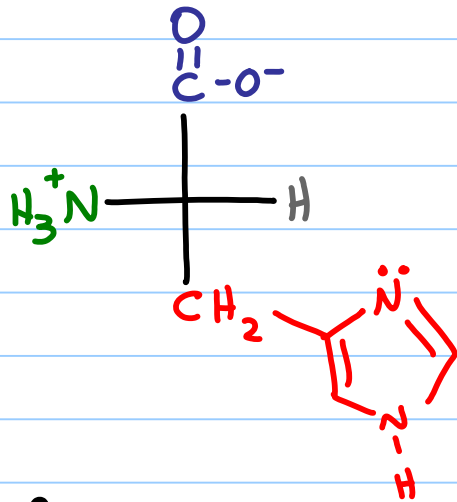
K - Lys hydrophilic, polar basic, + charge \downarrow pH

Part 1 d pH = 7

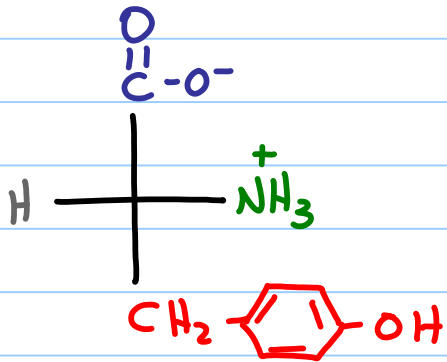
Glu → D



His → L

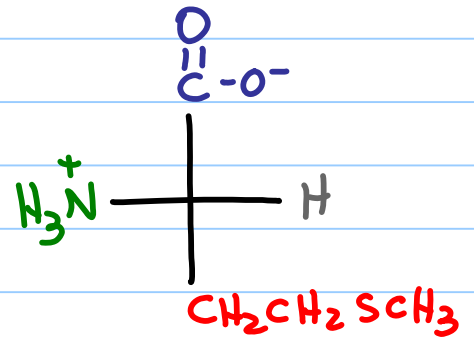


Future DR, Cys Lone R

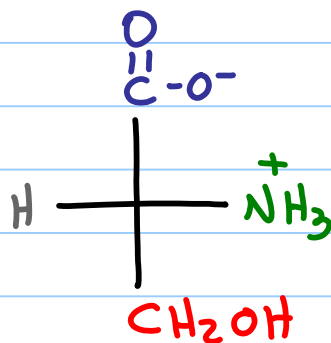


R Tyr = D

R-Ser = D



S-Met = L



Part 2

Rapidly protonates / deprotonates $\text{pH} \approx 7$

His

Found in α -helix

Ala, Leu, Met, Ser

Unique: hydroxy proline + Gly

Not found α -helix β -sheet

Pro

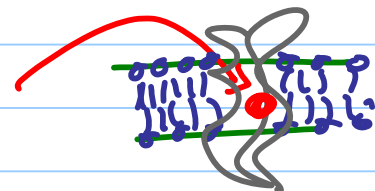
Gluconeogenesis (after quick mod)

Ala

Strong 3° / 4° interactions

Cys

Mid transmembrane protein



Hydrophobics: Ala, Val, Leu ...

Asp - Aspartic Acid (Aspartate)

Stomach > sm intestine > blood > 0.1 M NaOH
pH 2 pH 3-5 pH ~7 pH 13

Want to see a step by step
breakdown for each question?

Answers + explanations on the
quiz solutions video

LEAH4SCI.COM/AAvideo