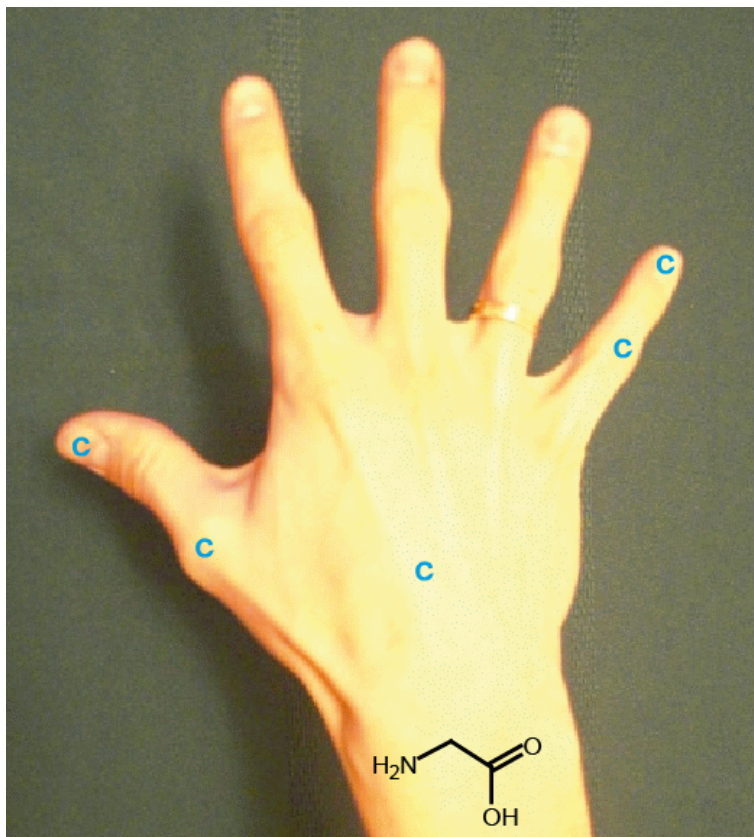


# **Amino Acids Are Easy**

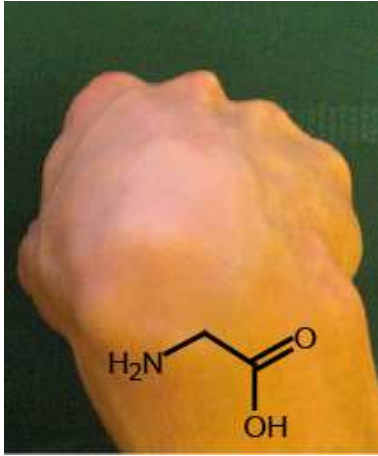
Learn how to remember 20  
aminoacids using your hands.

***Brought to you by GGSTEAM***

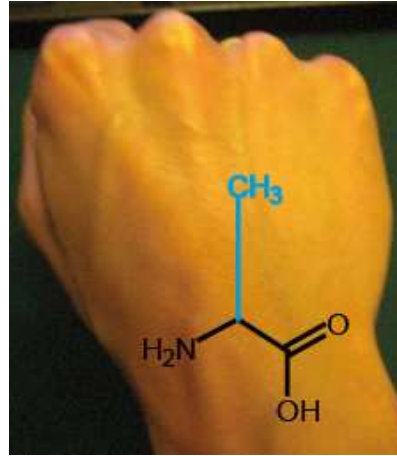
# Meet the rules



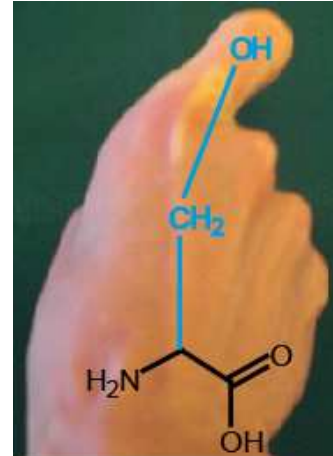
1. Your wrist represents backbone of amino acid and it is always the same.
2. First carbon atom will be always placed in the area of your palm, **including first knuckle of each finger.**
3. Next atoms (carbon, oxygen, nitrogen or sulfur) will occupy **finger knuckles and tips (like shown for thumb and small finger).**
4. We will bend rules a little in bigger structures:)
5. **Be aware that some bond lengths and angles are not real:)**
6. Hands photographed from top.



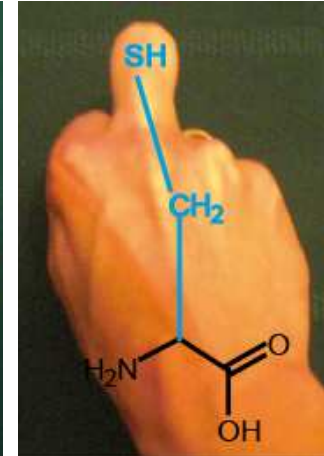
**Gly**



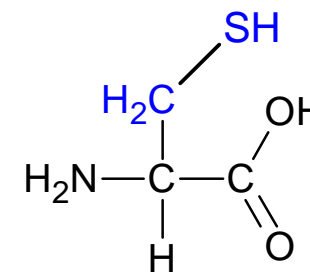
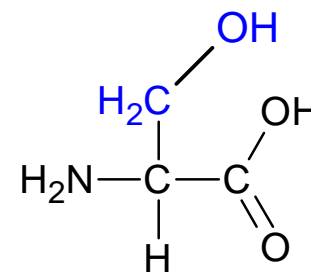
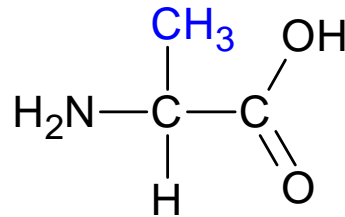
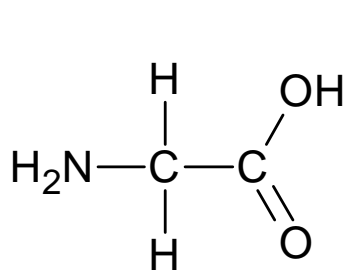
**Ala**



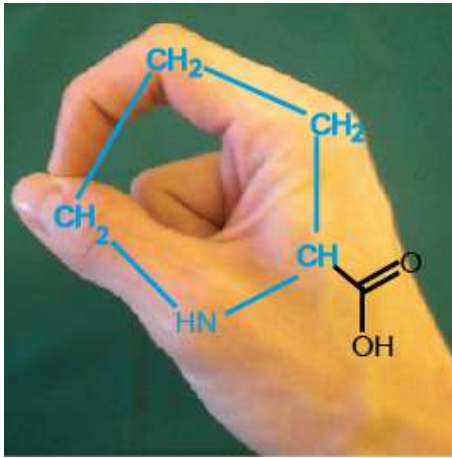
**Ser**



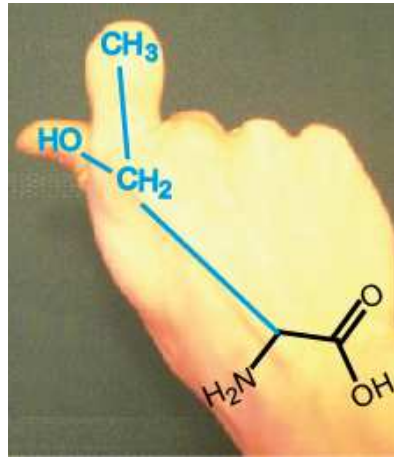
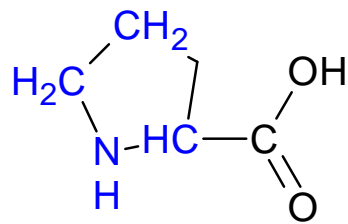
**Cys**



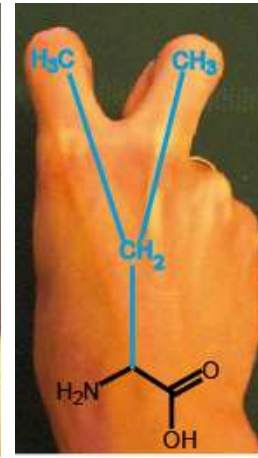
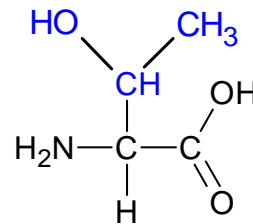
Short explanation (SE): Gly - just writst, Ala - Fist, Ser - your hand looks like S, Cys - Central finger .



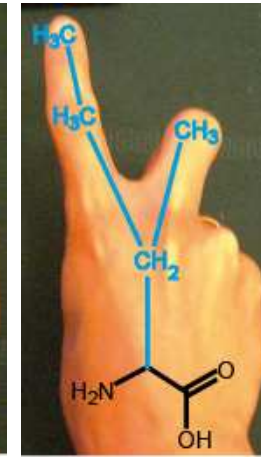
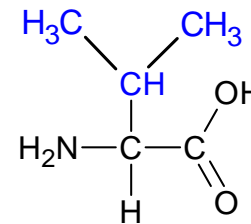
**Pro**



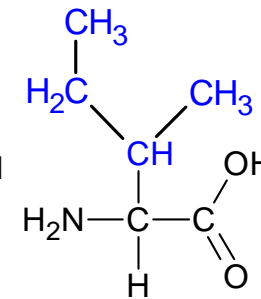
**Thr**



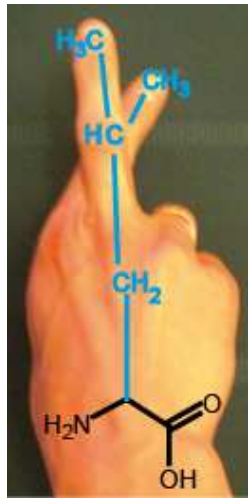
**Val**



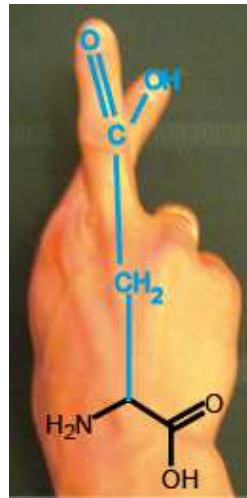
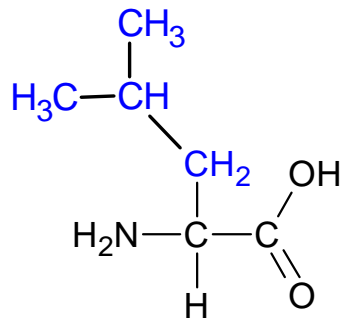
**Ile**



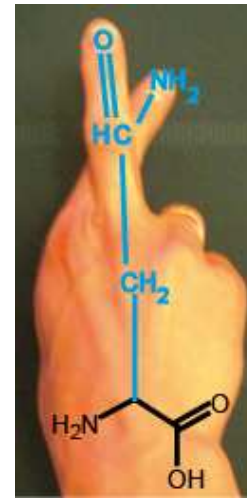
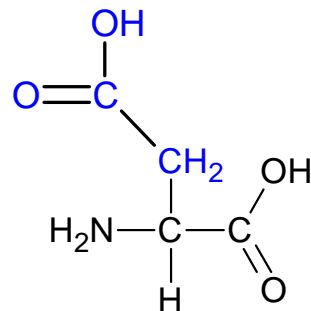
**SE: Pro - for Pentagon and looks like letter P as well, Thr - Looks like T, Val - Looks like letter V, Ile - Fingers looks like I and L.**



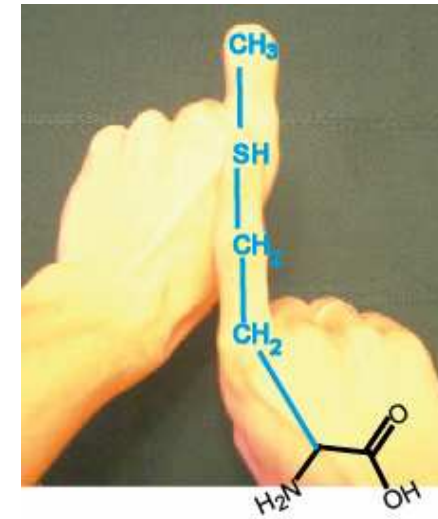
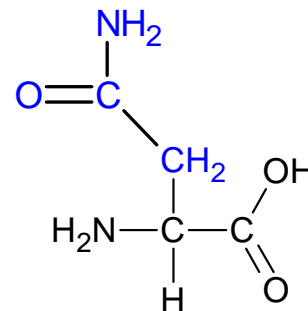
**Leu**



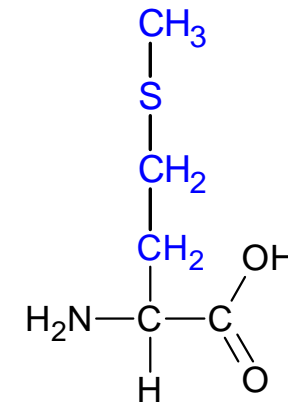
**Asp**



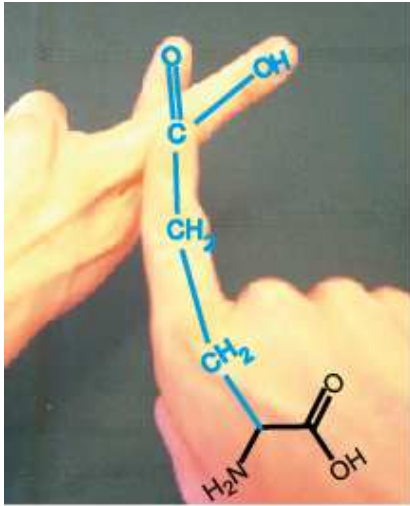
**Asn**



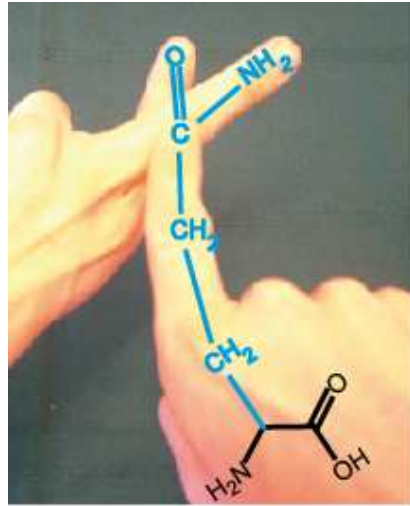
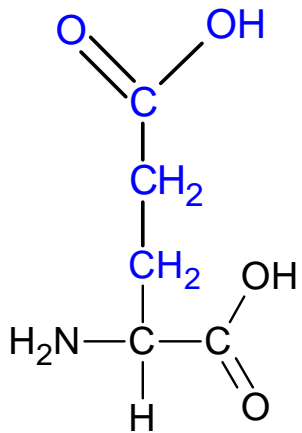
**Met**



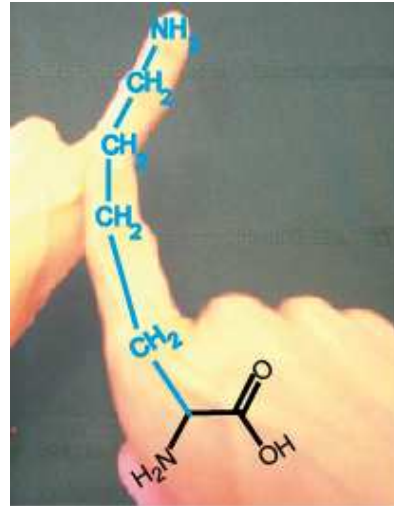
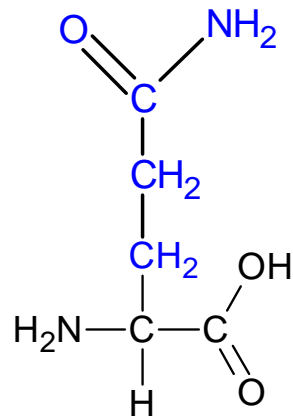
**SE: Leu, Asp and Asn are exactly the same only atom and number of bonds change, Met -first picture you MET two hands.**



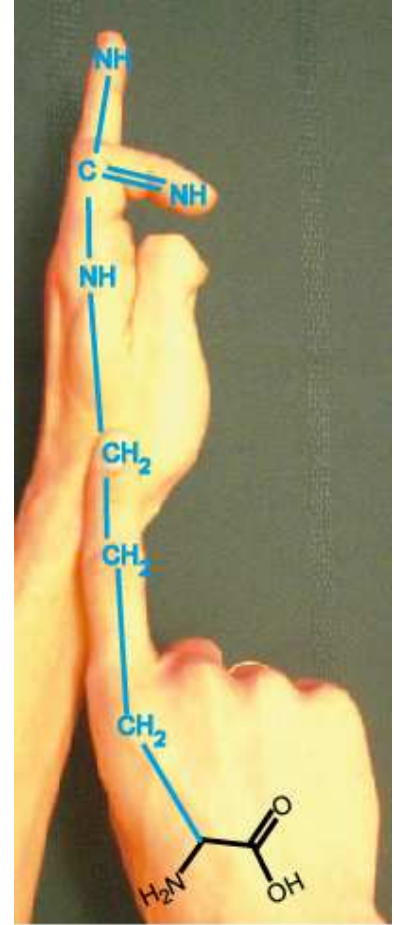
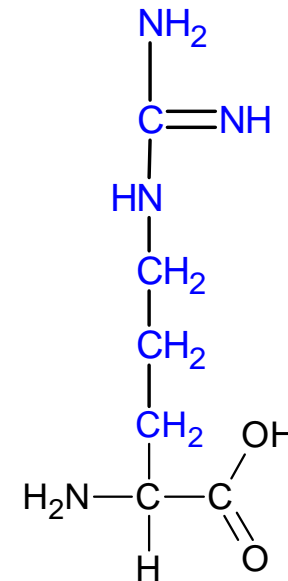
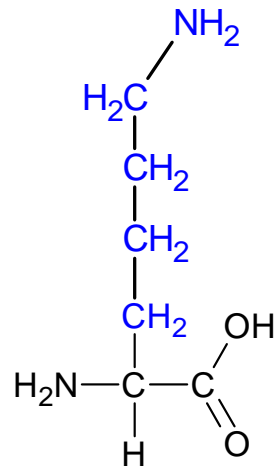
**Glu**



**Gln**



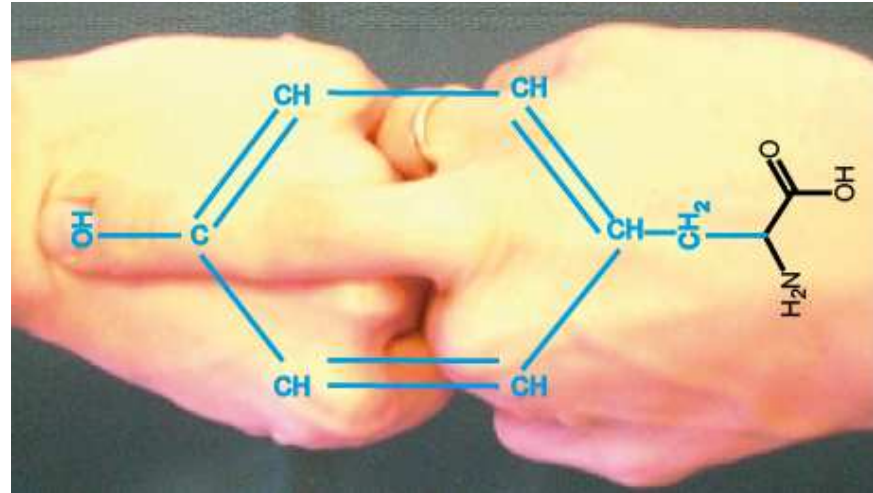
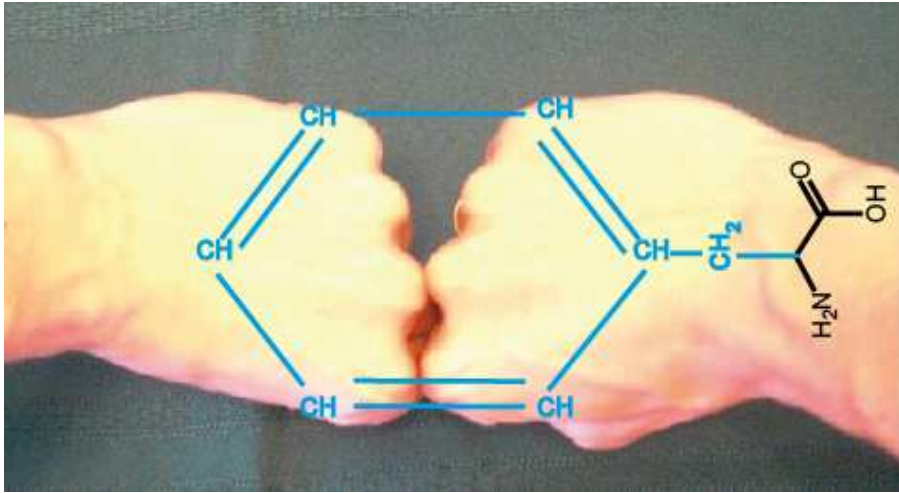
**Lys**



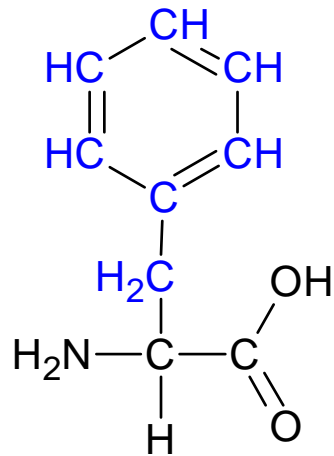
**Arg**

SE: Glu, Gln are the same (again only atoms and number of bonds change),  
 Lys - is Long and Arg- is as long as Lys but splits at the end.

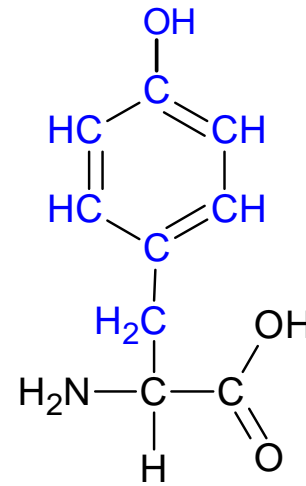


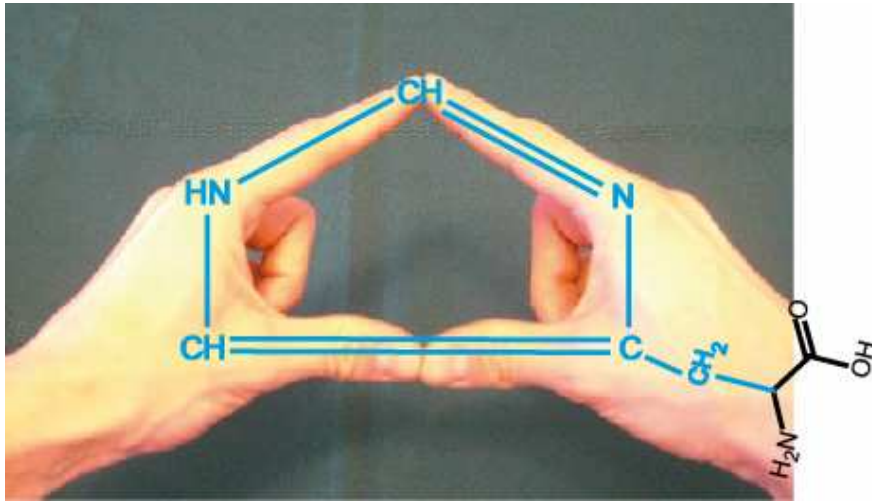


**Phe**

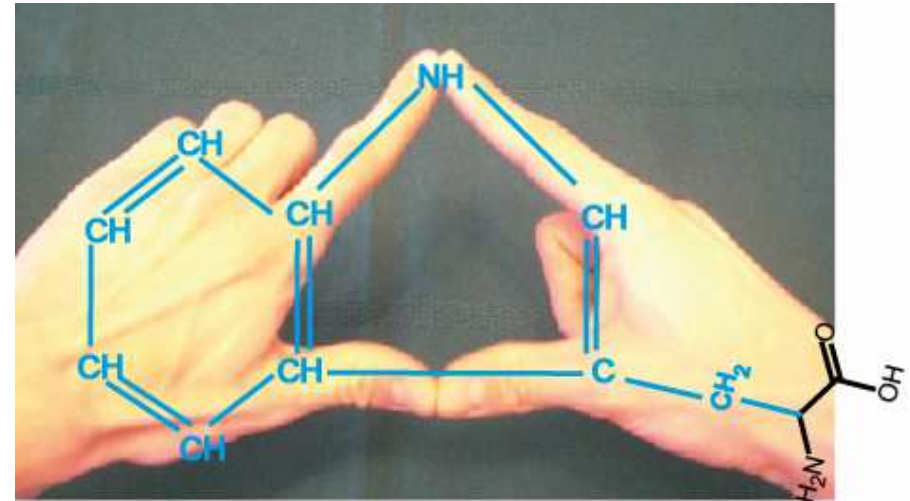
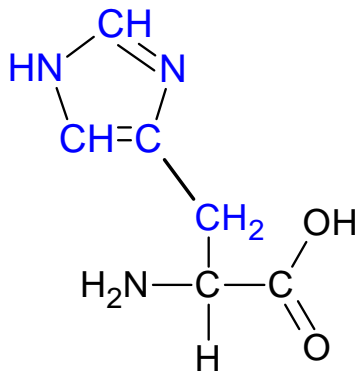


**Tyr**

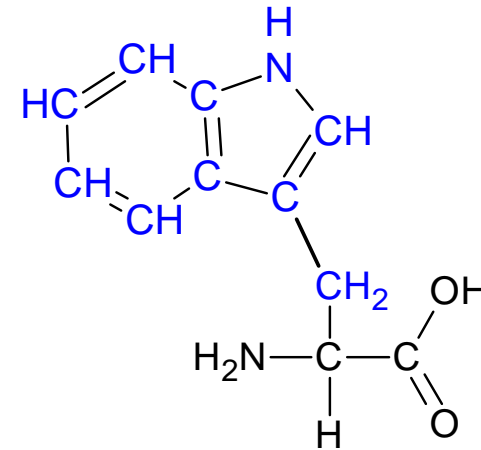




**His**



**Trp**



**SE: His - looks like house (nitrogens on the same knuckles) and Trp - house with pool (nitrogen at finger tips:)**



**I hope this will help you to remember  
the amino acids for good.**

***GGSTEAM***

