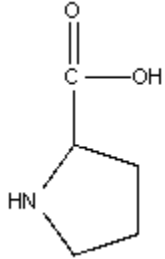
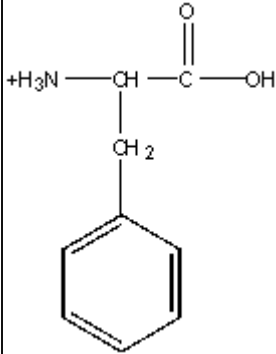
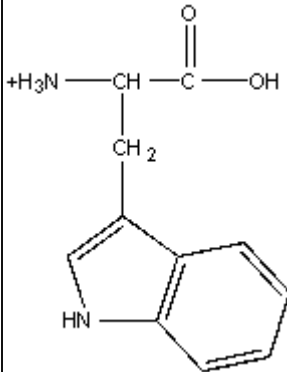
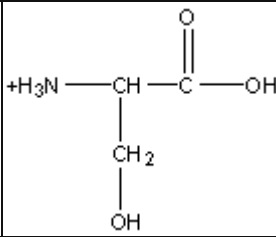
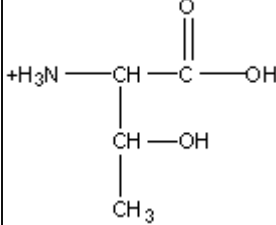
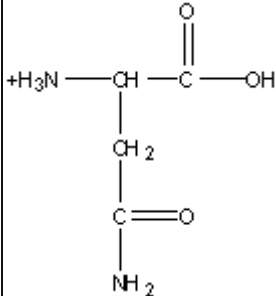


| Aminokyselina                  | 3-<br>písmenkový<br>kód | 1-<br>písmenkový<br>kód | Struktura   | pK <sub>a1</sub><br>(α-<br>karboxyl) | pK <sub>a2</sub> (α-<br>amino) | pK <sub>a3</sub> (boční<br>řetězec) |
|--------------------------------|-------------------------|-------------------------|---|--------------------------------------|--------------------------------|-------------------------------------|
| <b>Nepolární boční řetězec</b> |                         |                         |   |                                      |                                |                                     |
| Glycin                         | Gly                     | G                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{H}  \end{array}  $   | 2.35                                 | 9.78                           | .                                   |
| Alanin                         | Ala                     | A                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_3  \end{array}  $  | 2.35                                 | 9.87                           | .                                   |
| Valin                          | Val                     | V                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}-\text{CH}_3 \\    \\  \text{CH}_3  \end{array}  $                                | 2.29                                 | 9.74                           | .                                   |
| Leucin                         | Leu                     | L                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}-\text{CH}_3 \\    \\  \text{CH}_3  \end{array}  $          | 2.33                                 | 9.74                           | .                                   |
| Isoleucin                      | Ile                     | I                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}-\text{CH}_3 \\    \\  \text{CH}_2 \\    \\  \text{CH}_3  \end{array}  $          | 2.32                                 | 9.76                           | .                                   |
| Methionin                      | Met                     | M                       | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{S} \\    \\  \text{CH}_3  \end{array}  $ | 2.13                                 | 9.28                           | .                                   |

|                                       |     |   |   |      |       |   |
|---------------------------------------|-----|---|---|------|-------|---|
| Prolin                                | Pro | P |    | 1.95 | 10.64 | . |
| Fenylalanin                           | Phe | F |    | 2.20 | 9.31  | . |
| Tryptofan                             | Trp | W |   | 2.46 | 9.41  | . |
| <b>Nenabitý polární boční řetězec</b> |     |   |   |      |       |   |
| Serin                                 | Ser | S |  | 2.19 | 9.21  | . |
| Threonin                              | Thr | T |  | 2.09 | 9.10  | . |
| Asparagin                             | Asn | N |  | 2.14 | 8.72  | . |

|                                    |     |   |   |      |       |       |
|------------------------------------|-----|---|---|------|-------|-------|
| Glutamin                           | Gln | Q | $  \begin{array}{c}  \text{O} \\  \parallel \\  + \text{H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{C}=\text{O} \\    \\  \text{NH}_2  \end{array}  $                   | 2.17 | 9.13  | .     |
| Tyrosin                            | Tyr | Y | $  \begin{array}{c}  \text{O} \\  \parallel \\  + \text{H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{C}_6\text{H}_4 \\    \\  \text{OH}  \end{array}  $  | 2.20 | 9.21  | 10.46 |
| Cystein                            | Cys | C | $  \begin{array}{c}  \text{O} \\  \parallel \\  + \text{H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{SH}  \end{array}  $   | 1.92 | 10.70 | 8.37  |
| <b>Nabíý polární boční řetězec</b> |     |   |   |      |       |       |
| Lysin                              | Lys | K | $  \begin{array}{c}  \text{O} \\  \parallel \\  + \text{H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{NH}_3^+  \end{array}  $ | 2.16 | 9.06  | 10.54 |

|                 |     |   |   |      |      |       |
|-----------------|-----|---|---|------|------|-------|
| Arginin         | Arg | R | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{NH} \\    \\  \text{C}=\text{NH}_2^+ \\    \\  \text{NH}_2  \end{array}  $ | 1.82 | 8.99 | 12.48 |
| Histidin        | His | H | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{C}_5\text{H}_4\text{N}^+  \end{array}  $   | 1.80 | 9.33 | 6.04  |
| Kys. asparagová | Asp | D | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{C}=\text{O} \\    \\  \text{OH}  \end{array}  $  | 1.99 | 9.90 | 3.90  |
| Kys. glutamová  | Glu | E | $  \begin{array}{c}  \text{O} \\  \parallel \\  \text{+H}_3\text{N}-\text{CH}-\text{C}-\text{OH} \\    \\  \text{CH}_2 \\    \\  \text{CH}_2 \\    \\  \text{C}=\text{O} \\    \\  \text{OH}  \end{array}  $  | 2.10 | 9.47 | 4.07  |