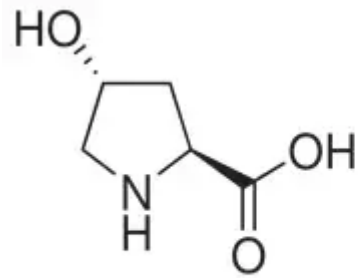
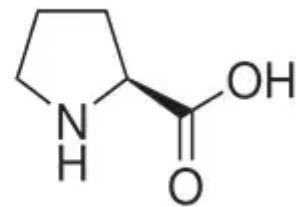


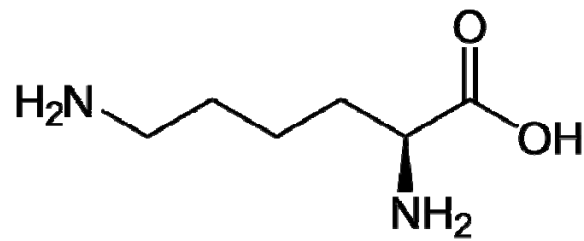
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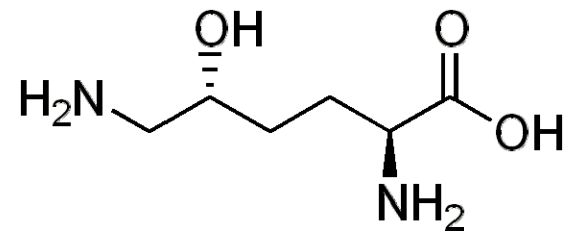
hydroxyproline



proline



Lysine



5-Hydroxylysine

# Essential & Nonessential Amino Acid

## Essential

Histidine  
Isoleucine  
Leucine  
Lysine  
Methionine  
Phenylalanine  
Threonine  
Tryptophan  
Valine  
Arginine

## Nonessential

Alanine  
Aspartate  
Cysteine  
Glutamate  
Glutamine  
Glycine  
Proline  
Serine  
Tyrosine  
Asparagine

