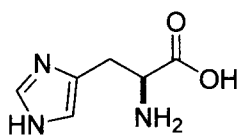


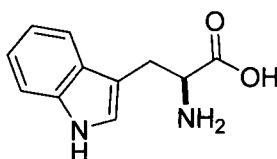
uses its energy to synthesize carbohydrates from CO_2 and water. This process, known as photosynthesis, is the basis for sustaining the life processes of all plants.

On the other hand, the heme consists of a porphyrin ring surrounding an *iron* atom. The ring contains a large number of conjugated double bonds, which allows the molecule to absorb light in the visible part of the spectrum. The iron atom and the attached protein chain modify the wavelength of the absorption and give hemoglobin its characteristic color.

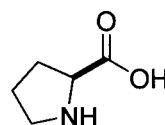
Several amino acids, the building block of life, are made of heterocycles. Histidine has an imidazole; tryptophan has an indole; yet proline has a pyrrolidine.



histidine

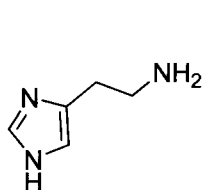


tryptophan

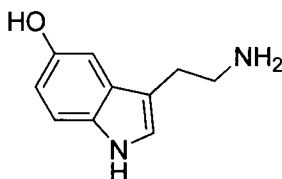


proline

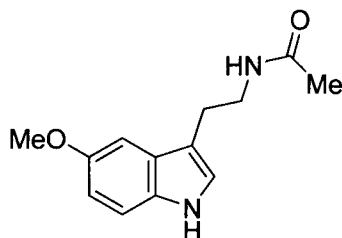
Heterocycles also play an important role as endogenous neurotransmitters. Chief among them are serotonin and histamine, which are of paramount importance in modulating the body's physiological and biochemical processes.



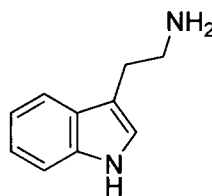
histamine



serotonin



melatonin



tryptamine