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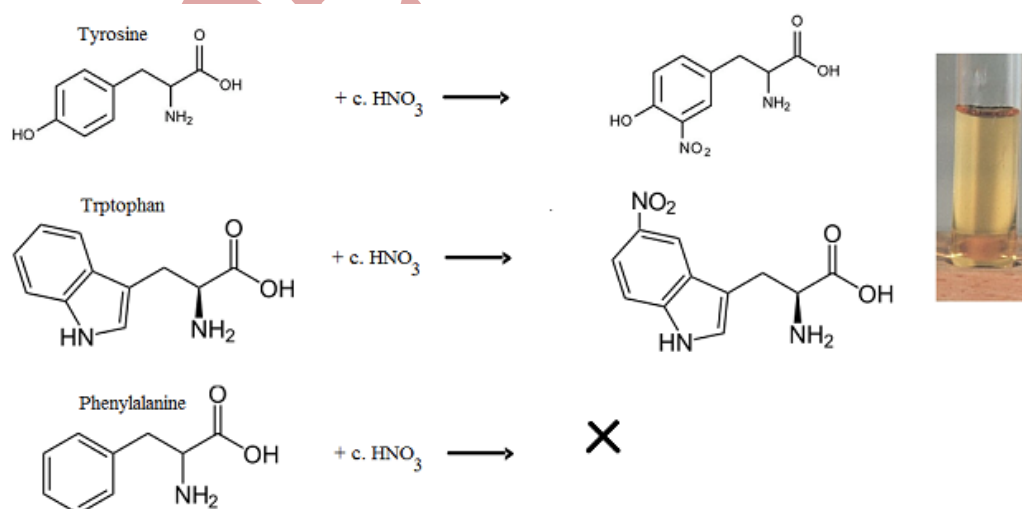
Xanthoproteic test

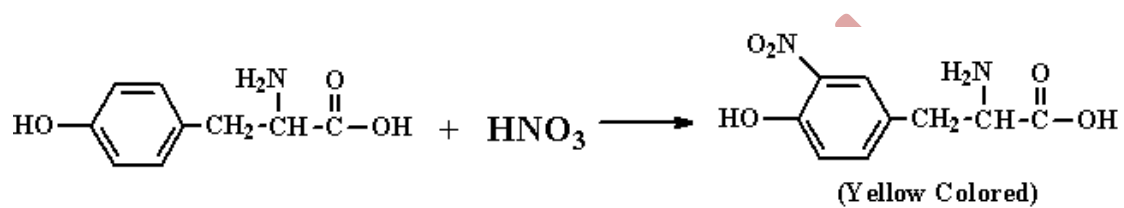
Objective:

This test is used for aromatic amino acids which give positive result from other amino acids. Such tyrosine, and tryptophan react with Xanthoproteic test, phenylalanine does not respond with this test.

Principle:

Xanthoproteic test is used to detect amino acids containing an aromatic nucleus (tyrosine, tryptophan and phenylalanine) in a protein solution which gives yellow color nitro derivatives on heating with conc. HNO_3 . The aromatic benzene ring undergoes nitration to give yellow colored product. Phenylalanine gives negative or weakly positive reaction though this amino acid contains aromatic nucleus because it is difficult to nitrate under normal condition. On adding alkali to these nitro derivative salts, the color change for yellow to orange.



ReactionsReagents:

1-test solution: 1 % tyrosine, 1 % tryptophan, 1 % phenylalanine, 5 % egg white (albumin).

2-Nitric acid Con .

3-NaOH % 40 .



Procedures:

Take 1ml of albumin solution in dry test tube.

Add 1ml of conc. HNO₃ in all test tubes and mix well

Cool the solution under tap water, becomes yellow.

Now add 2ml of 40 % NaOH to all test tubes, becomes orange.

