Xanthoproteic Test for Aromatic Amino Acids

Experiment 6 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To perform or observe the assigned qualitative test and interpret its controls.

Principle

The assigned reaction produces yellow nitro derivatives from suitable aromatic residues; the controlled alkaline stage can deepen the colour.

Expected Teaching Response

Yellow, with orange after the assigned alkaline stage, supports a responsive aromatic group.

Requirements

- Instructor-prepared protein/amino-acid solutions and approved reagent system
- Clean labelled tubes or product-specific test equipment; PPE

Procedure

1. Label

Prepare separate test, positive control and reagent blank/negative control entries.

2. Perform

Observe the instructor-controlled reaction and subsequent prescribed colour-development stage; record the response without preparing reagents.

3. Read

Observe at the method-defined time and compare with controls.

4. Record

Write the actual colour, precipitate or category, then the supported inference.

5. Interpret

Not every amino acid gives the same reaction; the test is not a complete protein assay.

Observations and Record

Material	Observed response	Inference
Test material	_____	_____
Positive control	_____	_____
Blank / negative control	_____	_____

Result

The observed response was _____. Controls were _____. The result _____ supports _____ under the stated method.

Precautions

- Use simulated biological material or authorised supervised demonstrations.
- Follow reagent, solvent, heating and waste controls; corrosive or metal reagents are instructor-managed.
- Do not copy an expected response into the actual observation field.

Viva Questions and Answers

1. What response is expected in the teaching positive?

Yellow, with orange after the assigned alkaline stage, supports a responsive aromatic group.

2. Why use controls?

They show whether the reagents and conditions produced a valid comparison.

3. What limits the conclusion?

Not every amino acid gives the same reaction; the test is not a complete protein assay.

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