Barfoed Test for Monosaccharides

Experiment 3 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

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

Principle

In the prescribed acidic copper-reagent test, monosaccharides commonly reduce the reagent faster than many disaccharides.

Expected Teaching Response

A red copper(I) oxide response within the defined time supports the assigned monosaccharide comparison.

Requirements

- Assigned mono/disaccharide solutions, Barfoed reagent and timed water bath
- 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

Use matched portions, heat for the prescribed brief interval and observe promptly; record the elapsed time.

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

Excess heating can cause misleading delayed disaccharide responses.

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?

A red copper(I) oxide response within the defined time supports the assigned monosaccharide comparison.

2. Why use controls?

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

3. What limits the conclusion?

Excess heating can cause misleading delayed disaccharide responses.

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