Benedict Test for Reducing Sugars

Experiment 2 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

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

Principle

Reducing sugars reduce alkaline copper(II) to copper(I) oxide under the test conditions.

Expected Teaching Response

Green-to-yellow/orange/red precipitate may appear depending on response and concentration.

Requirements

- Assigned sugar solutions, Benedict reagent and controlled heating 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

Combine the prescribed portions and heat using the assigned time and conditions; compare the cooled response with controls.

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

Sucrose is nonreducing before hydrolysis; other reducing substances can respond.

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?

Green-to-yellow/orange/red precipitate may appear depending on response and concentration.

2. Why use controls?

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

3. What limits the conclusion?

Sucrose is nonreducing before hydrolysis; other reducing substances can respond.

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