

IR Spectra of a Compound and Its Derivative

Experiment 17 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To compare the supplied parent and derivative spectra.

Principle

Infrared absorption provides functional-group and fingerprint evidence. A spectrum must be compared with the specified compound and measurement mode.

Requirements

- Instructor-provided labelled diagrams, traces or data for this activity.
- Calculator, graph paper or spreadsheet, and the activity record.

Procedure

1. Read axes

Record wavenumber units, absorbance/transmittance display and measurement mode.

2. Identify groups

Mark assigned diagnostic carbonyl, hydroxyl, amino or other relevant bands without treating approximate ranges as exact identity tests.

3. Compare derivative

Explain the expected group change and whether the supplied spectrum supports it.

Pharmaceutical Analysis

4. Assess identity

Compare the full pattern with the assigned reference, considering preparation and instrument conditions.

Observations and Record

Record item	Entry
Activity / material identifier	_____
Measurement or visible feature	_____
Comparison / calculated outcome	_____
Interpretation and limitation	_____

Result

The recorded finding is ____; the supporting observation or calculation is _____. The main limitation is _____.

Precautions

- Use the supplied teaching material; distinguish a measured observation from an assumed value.
- Keep units, axes, labels and measurement conditions consistent.
- Record limitations and seek instructor review before applying a conclusion to a live case.

Viva Questions and Answers

1. Why use the fingerprint region?

Its combined pattern can support comparison beyond a single functional-group band.

2. Does one carbonyl band name a compound?

No. Many compounds share that functional group.

Continue Learning with FirstHope

Complete Notes on the FirstHope App

Complete subject and semesters are available on FirstHope app only.

- Get complete subject and semester notes in the FirstHope app.
- Available for B.Pharm, D.Pharm, M.Pharm and Pharm.D students.

[Click here to get the FirstHope app](#)

Join the FirstHope Telegram Channel

Join FirstHope Notes and keep up with channel updates.

[Click here to join Telegram](#)

Instagram

@firsthope.official

[Click here to follow Instagram](#)

YouTube Channel

FirstHope-Pharmacy / Live streams

[Click here to watch the YouTube channel](#)

WhatsApp Channel

Follow FirstHope on WhatsApp.

[Click here to join the WhatsApp channel](#)

FirstHope Website

firsthopenotes.com

[Click here to visit the website](#)