

HPLC - Instrument Demonstration

Experiment 18 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To interpret the supplied hplc - instrument demonstration.

Principle

A liquid mobile phase carries components through a stationary phase; retention and calibrated detector response support separation and quantification.

Requirements

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

Procedure

1. Label flow path

Identify solvent reservoirs, pump, injector, column, detector and data system.

2. Review the method

Record column, mobile phase, flow, detector and standards from the supplied run.

3. Read the chromatogram

Record retention times, peak areas, resolution and system-suitability findings.

4. Interpret

Compare standard and test evidence; retention alone does not conclusively establish identity.

Pharmaceutical Analysis

Observations and Record

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

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- For a suitable area calibration $\text{Area} = mC + b$, $C = (\text{Area} - b)/m$.
- Example: area 1100, $b = 100$ and $m = 200$ give $C = 5$ assigned units before dilution.

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. What is the main endpoint?

Interpret the supplied hplc - instrument demonstration.

2. Does one observed result prove a general conclusion?

No. Controls, repeatability and the limitations of the method must be considered.

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