

GC-MS - Instrument Demonstration

Experiment 20 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To interpret the supplied gc-ms - instrument demonstration.

Principle

Gas-chromatographic separation and mass-spectral detection provide complementary retention and ion-pattern evidence for suitable volatile analytes.

Requirements

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

Procedure

1. Label the system

Identify carrier-gas system, injector, column, oven, interface and mass analyser.

2. Read supplied settings

Record sample preparation, chromatographic method and ionisation mode from the demonstration.

3. Compare evidence

Use retention and the supplied mass spectrum to assess the assigned candidate.

Pharmaceutical Analysis

4. Record limits

A library match is supporting evidence; coelution, background and instrument conditions require review.

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. What is the main endpoint?

Interpret the supplied gc-ms - 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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