



Uka Tarsadia University

Maliba Pharmacy College

Report on Industrial Visit to K.M. Pharma Solution Private Limited

Date of visit	07 April 2026, Tuesday
Place of visit	Unit No.101, Shivam Industrial Park, Sarkhej-bavala NH=8A, At-Moraiya, Changodar, Ahmedabad (Gujarat), India - 382213
Coordinator from college	Dr.Sandesh R. Lodha
Approval by	Dr. Ashish D Mishra, Principal
Participating students	3 students of M.Pharm 4th semester
Accompanying faculty member	Dr. Sandesh R. Lodha, Dr. Shrikant Nilewar
Coordinators from industries	Dr. Bhavesh Thumber and team



Objective of the Visit:

The objective of the industrial visit to **K.M. Pharma Solutions Pvt. Ltd.** was to gain practical exposure to **Contract Research Organization (CRO) operations**, including analytical research, method development, and pharmaceutical testing services.

The visit aimed to:

- Understand **CRO-based pharmaceutical research workflow**
- Learn about **analytical method development and validation**
- Gain exposure to **instrumentation used in research laboratories**
- Bridge the gap between **academic research and industrial R&D practices**

Program Outline

The visit began with an introduction to the company as a **CRO providing analytical and research services** to pharmaceutical industries.

Students were briefed on:

- Role of CRO in drug development
- Outsourcing of analytical and research work
- Industrial research workflow

The session mainly focused on **instrumental analysis and research activities**, rather than manufacturing.

Equipment Observed

Major Instruments Observed

1. UPLC (Ultra Performance Liquid Chromatography)

- **Use:** High-resolution and rapid analysis of pharmaceutical compounds
- **Application:** Impurity profiling, assay determination
- **Advantage:** Faster and more sensitive than HPLC

2. HPLC / RP-HPLC (High Performance Liquid Chromatography)

- **Use:** Separation and quantification of drug molecules
- **Application:** Routine analysis, stability studies, validation
- **RP-HPLC:** Common mode using non-polar stationary phase

3. UPLC-MS (Single Quadrupole)

- **Use:** Mass detection combined with chromatography
- **Application:** Molecular weight determination, impurity identification

4. UPLC-MS/MS (Triple Quadrupole)

- **Use:** Highly sensitive tandem mass spectrometry
- **Application:** Trace-level quantification, bioanalysis
- **Special Feature:** High selectivity and sensitivity

5. GC-MS (Gas Chromatography–Mass Spectrometry)

- **Use:** Analysis of volatile and semi-volatile compounds
- **Application:** Residual solvent analysis, impurity profiling

6. FTIR (Fourier Transform Infrared Spectroscopy)

- **Use:** Identification of functional groups
- **Application:** Structural characterization and purity check

7. UV-Visible Spectrophotometer

- **Use:** Quantitative analysis based on absorbance
- **Application:** Routine drug estimation

8. DSC (Differential Scanning Calorimetry)

- **Use:** Thermal analysis of materials
- **Application:** Melting point, polymorphism, compatibility studies

9. TGA (Thermogravimetric Analysis)

- **Use:** Measures weight change with temperature
- **Application:** Thermal stability and composition analysis

10. Rotary Evaporator (Rota Evaporator)

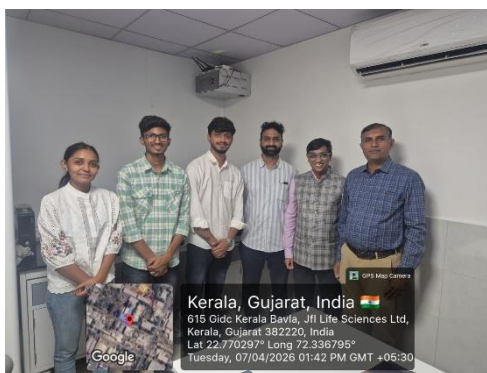
- **Use:** Removal of solvents under reduced pressure
- **Application:** Sample preparation and concentration

Learning Outcomes: Learning Outcomes

Students gained practical knowledge of the following:

1. Understanding of UPLC and HPLC (RP-HPLC) techniques used for drug analysis and impurity profiling.
2. Knowledge of hyphenated techniques such as UPLC-MS and UPLC-MS/MS for sensitive detection and identification of compounds.
3. Working principle and application of GC-MS for analysis of volatile compounds and residual solvents.
4. Use of FTIR for identification of functional groups and UV-Visible spectroscopy for quantitative analysis.
5. Understanding of thermal analysis techniques such as DSC and TGA for studying stability and material properties.
6. Knowledge of sample preparation techniques using rotary evaporator for solvent removal and concentration.
7. Understanding the role of Contract Research Organization (CRO) in pharmaceutical research and analytical services.
8. Exposure to industrial analytical workflow including instrument handling, data generation, and documentation.
9. Importance of advanced analytical instruments in drug development and research.

Some of the glimpse from the visit :



Group photos of students at K.M Pharma solution Pvt Ltd while giving token of thanks to Dr. Kalpesh Menpara and Team

Acknowledgments

We would like to express our sincere gratitude to **Dr. Kalpesh Menpara and the entire team of K.M. Pharma Solutions Pvt. Ltd.** for giving us the opportunity to visit their organization and for sharing their valuable knowledge and guidance during the industrial visit.

We are also highly thankful to our faculty members **Dr. Sandesh R. Lodha** and **Dr. Shrikant Nilewar** for their continuous support and guidance throughout the visit.

We extend our gratitude to our respected Principal **Dr. Ashish D. Mishra** for granting permission to organize this industrial visit.

Their support and encouragement made this visit informative and beneficial for all the students.

Conclusion: The industrial visit to K.M. Pharma Solutions Pvt. Ltd. was informative and helped us understand advanced analytical instruments and their applications in pharmaceutical research. It improved our practical knowledge and provided insight into CRO-based industrial work.

Prepared by: M.Pharm Pharmaceutical Chemistry Batch 2024-2026

Verified by: Dr. Pintu Prajapati