

# GUIDELINE FOR LC-MS USERS

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**Liquid chromatography–mass spectrometry (LC-MS, or alternatively HPLC-MS)** is an analytical chemistry technique that combines the physical separation capabilities of liquid chromatography (or HPLC) with the mass analysis capabilities of mass spectrometry (MS). LC-MS is a powerful technique that has very high sensitivity and selectivity and so is useful in many applications.

*SAIF CSIR-CDRI, Lucknow is providing only small molecule qualitative analysis service to our SAIF Users.*

## Experiments

- LC-ESI-MS analysis: Liquid chromatography-mass spectrometry (LC-MS)** as a widely used technique for identification and quantification of molecules/compounds/analytes separated by liquid chromatography.  
It provides separation of compounds and detection by MS (provide molecular weight of compounds).
- LC-ESI-MS/MS analysis: Liquid chromatography-tandem mass spectrometry (LC-MS/MS)** is technique in which fragmentation of molecules/compounds/analytes use to identify/ confirm the chemical structure.

Note-The charges will be for acquiring and providing you the data, not for data analysis.

## INFORMATION REQUIREMENTS FOR ANALYSIS

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S.NO.	Analysis	Information require for analysis
1.	Liquid chromatography-mass spectrometry (LC-MS)	Nature of sample: plant extracts/chemical reaction products/pure isolated compound from column Or Fraction of plant extract: like hexane, chloroform, ethyl acetate etc. Solubility: Acetonitrile, Methanol or water Expected : Molecular weight of analytes
2.	Liquid chromatography-mass spectrometry (LC-MS/MS)	SAIF/ Lot Number (previous LC-MS Analysis) 2. Peak list: which required (MS/MS fragmentation)  Retention time: 3.51 min (m/z 395) 5.43 min (m/z 275) 6.86 min (m/z 520)

Note- without require information analysis can't be performed

## LC-MS/MS Instrument

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Developed for integrated HPLC MS/MS qualitative and quantitative applications, the Waters ACQUITY® TQD features the highest levels of tandem quadrupole MS selectivity, robustness, speed, and accuracy.

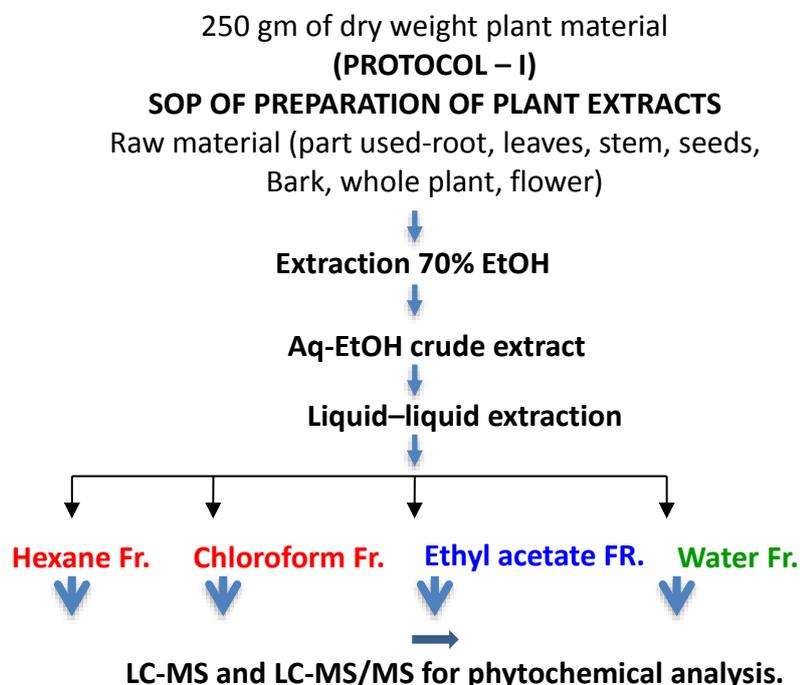
Specification:

1. ZSpray™ dual-orthogonal API source
2. Mass scan range:  $m/z$  50-2000 Th
3. Acquisition speed: 10 scan/second
4. Polarity switching(ES+/ ES-): 20 ms
5. ESCi mode switching: 20 ms
6. MRM Sensitivity : 1 pico gram (Reserpine S/N 2000:1)

## Example: Sample preparation

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Keywords: [Extraction](#); [Liquid-liquid extraction](#);



1. Weight out 10 mg of solvent free plant extract's fraction in eppendorf tube.
2. Label with sample code and properly packed in a thermocol box.
3. Send for analysis along with all necessary details.

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