



TOP-CLASS SINGLE QUADRUPOLE MASS SPECTROMETER, WITH ULTRA PERFORMANCE LIQUID CHROMATOGRAPH AND UV/Vis DETECTOR (UPLC-UV-MS)

(UPLC/UV/SQ; mod. ACQUITY UPLC H-CLASS/TUV/SQD2)

VENDOR: WATERS SPA

YEAR OF ACQUISITION: 2024

SUPERVISING FACULTY MEMBER: Prof. Tullia Tedeschi

Technical features:

Mass spectrometer

- Mass range suitable for the determination of small and large molecules (up to 3000 m/z).
- Multimode source – ESI/APCI/ESCI, able to work simultaneously both in ESI and APCI mode.
- Integrated valve (divert valve), inside the instrument, which allows the operator to manage the flow exiting the chromatographic system, directing it into the spectrometer or diverting it toward the drain.
- Direct infusion system of calibrants and samples, by means of vials integrated into the system and controlled by software.
- Acquisition modes: Full Scan MS and Selected Ion Recording (SIR).

Ultra Performance Liquid Chromatograph

- Possibility of using packed columns, with particle size < 2 μ m.
- Eluent management system with low pressure quaternary mixing.
- Thermostatically controlled column compartment, with active preheater.
- Autosampler, thermostatable
- FTN-type injection system (Flow Through Needle).
- Safety systems including leak sensors and automatic diagnostics.

UV/Vis Detector

- Fixed-wavelength UV detector
- Analytical flow cell.

Instrumental management and data processing software

- MassLynx 4.2, with TargetLynx XS and deconvolution software MaxEnt for multi-charged compounds.

Applications:

- Target analysis of ionic/ionisable compounds and/or having absorption of wavelength in the UV/Vis range.

Acquired for the Department of Excellence MUR 2023-2027