Rules and procedures for the use of the equipment COMPACT SINGLE QUADRUPOLE MASS SPECTROMETER WITH AN INTERFACE FOR THE ANALYSIS OF PLANAR SURFACES SUCH AS TLC PLATES (TLC/MS) acquired under the MUR Department of Excellence Project 2023–2027

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Approved by the Department of Excellence Steering Committee on 3 September 2026

Approved by the Council of the Department of Food and Drug on 9 September 2026

Description of the equipment

The TLC/MS system consists of a compact single quadrupole mass spectrometer equipped with an interface for planar surface analysis. It is designed for chemical synthesis laboratories, as it can acquire the mass spectrum of an individual spot on a TLC plate. This enables rapid screening of compounds obtained by organic or inorganic synthesis, as well as rapid, automated analysis of spots obtained by TLC separation of crude reaction mixtures. Mass spectra are acquired without scraping or any additional sample preparation steps.

Main modules comprising the equipment:

- ADVION CMS-L single quadrupole mass spectrometer with a mass range up to m/z 2000, which can be fitted with either an ESI or an APCI source and offers three sample introduction options: flow injection analysis; ASAP-like direct introduction of solid and semi-solid samples using a glass capillary; and extraction from planar surfaces.

- JASCO isocratic analytical pump with programmable flow rates up to 10 mL/min.

- ADVION Plate Express module for TLC plate extraction.

- Advion Mass Express and Advion Data Express software for instrument control and data processing.

Authorised permanent staff and trainers

Surname	First name	Dept./Centre	Contact
Curti	Claudio	Food and Drug	claudio.curti@unipr.i t
Vacondio	Federica	Food and Drug	federica.vacondio@unipr.it
Rivara	Mirko	Food and Drug	mirko.rivara@unipr.i t
Carbone	Francesca	Food and Drug	francesca.carbone@unipr.it

The list of authorised personnel is kept up to date and is available in Annex 2 to these Rules.

Access to and use of the equipment

1) Research groups in the ALIFAR Department with authorised users may access the equipment through their own staff, subject to prior booking on the dedicated Teams platform managed by the Technical Contact. Groups without a designated contact may contact the staff listed above. Access remains subject to booking on the Teams platform. Use of the equipment without a booking will result in a charge for a full working day, equivalent to eight hours. Only personnel who have completed the initial training (authorised personnel and trainers), or who have subsequently been trained by the trainers, may use the equipment.
2) Users from other University departments and external users may contact the Scientific Coordinator by completing the analysis request form (Annex 1).

Fees

Three user categories apply for the purpose of equipment usage fees:

1) ALIFAR Users: teaching and research staff of the University of Parma affiliated with the ALIFAR Department;
2) Internal Users: teaching and research staff of the University of Parma;
3) External Users: researchers and other staff from universities, research bodies and public and private institutions.

Type of analysis	**ALIFAR USER €/hour (minimum 30 min)**	**INTERNAL USER €/hour (minimum 30 min)**	**EXTERNAL USER €/sample***
TLC/MS	3	5	250
Solid sample using a capillary	3	4	220 (ALIFAR 030)
Flow injection analysis	3		
Data processing	-	10	50

* For every five determinations commissioned, the sixth is performed free of charge OR data processing fees are waived.

ALIFAR users who contribute their own research funds towards annual preventive maintenance contracts and/or comprehensive insurance, or towards repair costs, will not be charged usage fees until the amount contributed has been offset.

Annex 1. TLC/MS SYSTEM – ANALYSIS REQUEST FORM

To be emailed to the authorised personnel

Applicant details

UNIVERSITY OF PARMA INTERNAL USER
Dept./Centre:
Applicant:
User:
E-mail:
Telephone:

EXTERNAL USER
Organisation name:
VAT no./Tax code
Address:
Applicant:
User:
E-mail:
Telephone:

Sample information and type of analysis

Number of samples to be analysed (including replicates and blanks)	*E.g. 10 samples, or 5 samples in replicate + 1 blank in replicate.*
Sample type (briefly describe, specifying the matrix)	*E.g. peptide obtained by organic synthesis*
For LIQUID samples: solvent or solvent mixture in the sample	*E.g. H2O/CH3CN mixture 1:1 (v/v) + 0.1% HCOOH*
For SOLID samples: describe the matrix type	
For samples on TLC plates: specify the number of spots to be analysed	
Hazards	☐ **flammable** ☐ **irritant** ☐ **acute toxicity** ☐ **harmful** ☐ **corrosive** ☐ **oxidising** ☐ **carcinogenic/mutagenic** ☐ **hazardous to the environment**
Target analytes (names/class) and m/z range	*E.g. peptides with MW <1000 Da; newly synthesised compound (MW 555.62)*
Estimated analyte concentration (specify units)	*E.g. 100 ppb or 100 µg/kg*
Type of analysis requested	☐ **TLC-MS analysis** ☐ **Solid sample using a capillary (ASAP-like)** ☐ Flow Injection Analysis

Bookings may be cancelled up to the third working day before the requested date.

If the equipment is not used and the booking has not been cancelled in time, payment for the service is still required.

Date …….

Applicant's signature (research fund holder)

……

Annex 2. List of personnel authorised to use the equipment

Authorised personnel and trainers		
Surname	**First name**	**Dept./Centre**
Curti	Claudio	Food and Drug
Vacondio	Federica	Food and Drug
Rivara	Mirko	Food and Drug
Carbone	Francesca	Food and Drug
Authorised non-permanent personnel and trainers		
Surname	**First name**	**Dept./Centre**
Sarcone	Lorenzo	Food and Drug
Rubini	Daniele	Food and Drug
Yamukujije	Clementine	Food and Drug
Martina	Maria Grazia	Food and Drug
Barbieri	Francesca	Food and Drug
Giannessi	Lisa	Food and Drug
Guazzetti	Debora	Food and Drug
Conversazioni	Beatrice	Food and Drug
Rocca	Edoardo	Food and Drug