

CH-405

Methodology in instrumental chromatography

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Cursus	Sem.	Type
Chimiste	MA1, MA3	Opt.
Mineur STAS Russie	H	Opt.
UNIL - Sciences forensiques	H	Opt.

Language of teaching	English
Credits	2
Session	Winter
Semester	Fall
Exam	Written
Workload	60h
Weeks	14
Hours	2 weekly
Courses	2 weekly
Number of positions	

Summary

See content below please

Content

1. Introduction

Practical aspects about the course / Why chromatography ? / Reminders in chromatography / First choices / How to interpret chromatograms ? / GC or LC ? / How to treat an unknown sample ?

2. GC choices applied to:

Injection techniques / Columns / Detection techniques / Sample preparation techniques, automated and manual: Thermal desorption, Headspace, SPME, P&T and others / Mistakes to avoid in GC & GC troubleshooting

3. LC choices applied to:

Injection techniques / Columns / Detection techniques / Sample preparation techniques / LC troubleshooting

4. Other chromatography/related techniques

SFC, CE, TLC / Combined techniques / Useful tips and tricks / Conclusions

Keywords

GC HPLC Chromatography Headspace Thermal desorption GC/MS Injection Detection

Learning Prerequisites**Important concepts to start the course**

Chromatography (GC and HPLC): theory and chromatography principles, practical work done

Learning Outcomes

By the end of the course, the student must be able to:

- List and compare various instrumental chromatography techniques:
- Choose which chromatography technique solves at best given analytical problems, based on what a chemist faces in today's laboratories.
- Adapt and optimize these chromatography techniques to enhance the quality of the results and automate the work.
- Prevent possible problems, or analyze and solve them if they occur indeed.
- Imagine powerful combinations of chromatography techniques to solve more complex separations.

Teaching methods

Ex-cathedra

Assessment methods

MCQ