

Instrumental Analysis II

Lecture-Nr.: 53740

Type: lecture

Duration: 3 hours per week (winter) + 0.5 hours exercises per week (winter)

Method of Assessment: written examination (on lecture and accompanying lab course)

ECTS Credit Points: 3

Topics:

The lecture is given within the first 10 weeks of the winter term with 6 hours per week. The lecture covers the following topics: NMR spectroscopy, IR spectroscopy and related methods, UV spectroscopy, mass spectrometry, polarimetry, chromatographic methods (TLC, HPLC, GC, size exclusion chromatography), electrophoresis, radiochemistry and thermoanalytical methods. The principles, theory and applications of the above mentioned methods are explained. Furthermore, applications of the methods in pharmaceutical analysis are demonstrated. Exercises refer to structural determination of pharmaceutically relevant organic compounds by NMR spectroscopy and calculations in radiochemical analysis.

Literature:

1. Skoog; West; Holler; Crouch: Fundamentals of analytical chemistry. CENGAGE Learning.
2. Skoog; Crouch; Holler: Principles of instrumental analysis. Brooks/Cole.
3. Rücker; Neugebauer; Willems; Instrumentelle pharmazeutische Analytik. WVG, Stuttgart.
4. Dominik; Steinhilber: Instrumentelle Analytik. Deutscher Apotheker Verlag, Stuttgart.
5. Ehlers: Analytik II. Deutscher Apotheker Verlag, Stuttgart.
6. Schwedt: Analytische Chemie. Georg Thieme Verlag, Stuttgart-New York.

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