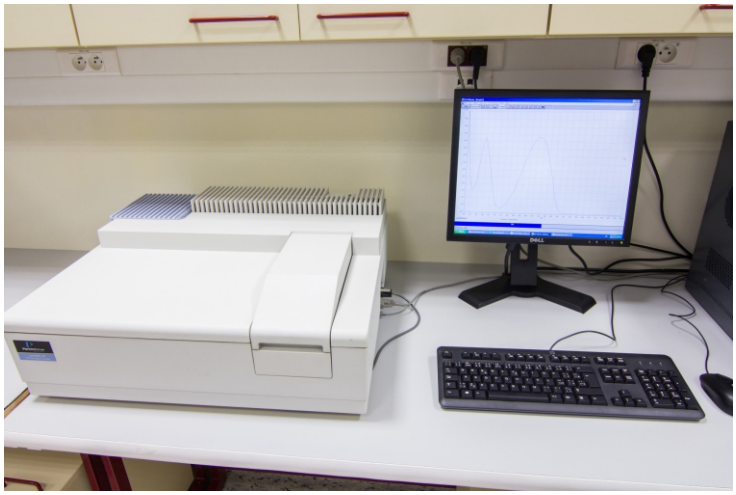
UV-VIS **ABSORPTION SPECTROSCOPY**

PERKIN-ELMER LAMBDA 40 AND LAMBDA 35

Ultraviolet and visible spectroscopy (UV-Vis) refers to absorption spectroscopy or reflectance spectroscopy in the ultraviolet-visible spectral region. In this region of the electromagnetic spectrum, molecules undergo electronic transitions. This technique is complementary to fluorescence spectroscopy, which deals with transitions from the excited state to the ground state, while absorption spectroscopy measures transitions from the ground state to the excited state. Two UV-Vis spectrometers, Perkin-Elmer Lambda 40 and Lambda 35, are at disposal to our contract partners and they use these sources of radiation: tungsten (visible region) and deuterium (ultraviolet region) lamps.

ACQUIRED INFORMATION

- Absorption spectra in solutions of any solvent
- Diffuse-reflectance spectra in the solid state
- Quantitative determination of different analytes (e.g. transition metal ions, conjugated organic compounds)
- Determination of the kinetics or rate constant of a chemical reaction



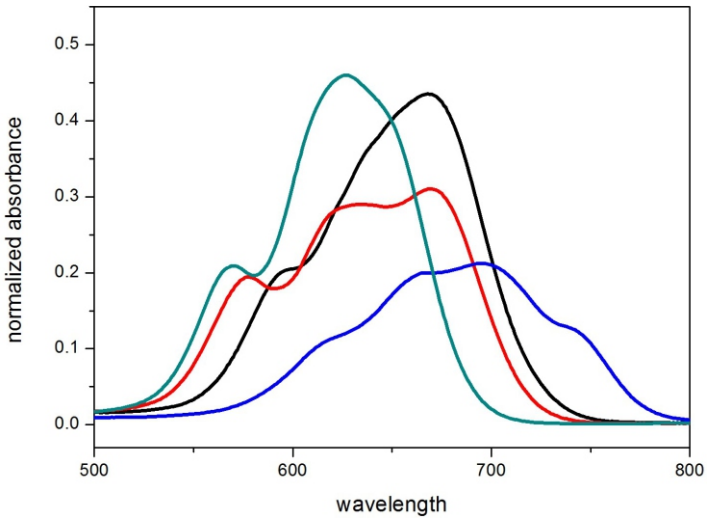
Spectrometer Lambda 40

SAMPLE TYPES

- Powder materials
- Clear solutions of materials in various solvents
- Inorganic, organic or coordination compounds
- Products of chemical industry
- Products of other industries (e.g. pharmaceutical)

MODES, CONDITIONS AND PRECISION

- Measurement in the region from 200 to 1000 nm (10000–50000 cm^{-1})
- Possibility to measure in inert conditions
- Solutions or powder samples
- Measurements are performed at the laboratory temperature conditions



Electronic spectra of Co(II) compunds

DETAILED INFORMATION ON REQUEST

REGIONAL CENTRE OF ADVANCED TECHNOLOGIES AND MATERIALS

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