CY-525 INDUSTRIAL CHEMICAL ANALYSIS

Sampling and sample preparation of complex matrices for advanced analytical techniques. Hyphenated chromatographic analysis, i.e. Liquid chromatography with Ultraviolet (LC-UV), Refractive Index (LC-RI) and Diode Array Detection (LC-DAD), Liquid chromatography-mass spectrometry (LC-MS), Gas chromatography- mass spectrometry (GC-MS), interpretation of chromatogram/ spectra. Application of Scanning Electron Microscopy (SEM) with Electron Dispersive Spectroscopy (EDS), X-ray diffractometers (XRD), Infrared (IR) and Raman spectroscopy for sample characterization. Green Analytical Chemistry, Analytical Method Assessment, Tools and Techniques for Assessing Greenness of Analytical Methods. Concepts of Statistical Experimental Design and their application in Chemical analysis. Strategy of experimentation, basic principles, guidelines for designing experiment

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