

ICP 457: ESTIMATIONS AND EXTRACTIONS IN ORGANIC CHEMISTRY

Course objective

- To study about the quantitative analysis of organic molecules by solution chemistry
- To learn extraction techniques of certain natural compounds.

Quantitative determination of sugars, amino acids, phenols, carboxylic acids, amides, esters, aldehydes, ketones, urea by various methods. Determinations of acid and ester; acid and amide in a mixture
Determination of functional groups like hydroxyl, vic-hydroxyl, enol, amino, amide, unsaturation and nitro groups by various methods.

Extractions:

- Isolation of caffeine from Milk
- Isolation of caffeine from tea leaves
- Isolation of Piperine from black pepper
- Isolation of Nicotine from Tobacco
- Isolation of Hesperidin from Orange Peel Using Soxhlet Extractor

Course Outcome:

- Quantitative determination of small molecules, biomolecules and functional groups.
- Students get laboratory training in extraction, characterization of natural products.

References:

1. Elementary Practical Organic Chemistry, Vol. II, quantitative Organic Analysis-A.I.Vogel
2. Experimental Organic Chemistry, Vol. I & II, P.R.Singh, Tata McGraw-Hill, 1981.
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5. Experimental Organic Chemistry, H.D.Durst & G.E.Goke, McGraw-Hill, 1980
6. More Spectroscopic Problems in Organic Chemistry-A.J. Baker et al., Heyden, 1975.
7. Spectral Problems in Organic Chemistry, Davis & Wells, Chapman & Hall, 1984.
8. Elementary Practical organic chemistry, Part 2: Quantitative organic analysis by Arthur I. Vogel, 2nd Edition, CBS Publishers and distributors, 1987.
9. Organic analytical chemistry, Theory and Practice-Jag Mohan, Narosa, 2003.
10. Laboratory Manual of Organic Chemistry - Raj K Bansal, 2nd Edition, Wiley, 1990.
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