

Govind Guru University
B.Sc.Semester III
Chemistry Practical-203
[Organic& Physical Practical]

[A] [A] Organic Spotting and Estimation:

Organic spotting minimum eight compounds (5 solids and 3 liquids)

Acids: Salicylic acid, Cinnamic acid, Benzoic acid, Phthalic acid

Phenols: p-Nitrophenol, α -Naphthol, β -Naphthol

Bases: m and p – Nitroanilines, p-Toluidine

Neutral :Solids:- Acetanilide, m-Dinitrobenzene, Glucose,

Liquids: Acetophenone, Carbon tetrachloride (CCl_4), Methylacetate

Estimations: (1) Glucose

(2) Ketone

(3) Phenol/Aniline

[B] Physical Experiment

1. To determine the relative strength between HCl and H_2SO_4 by studying hydrolysis of methyl acetate.

2. To determine the temperature coefficient and energy of activation of hydrolysis of methyl acetate catalyzed by acid.

3. To study the adsorption of an organic acid by Animal Charcoal. (Acetic acid /Oxalic acid).

4. Conductometric titration.

(i) Strong acid \square Strong base (HCl \square NaOH)

(ii) Weak acid \square Strong base (CH_3COOH \square NaOH)

(iii) Mixture of acids \square Strong base ($\text{HCl} + \text{CH}_3\text{COOH}$ \square NaOH)

5. To determine specific refraction and molar refraction of liquid A, B and its Mixture (Only Demo)

6. To determine absolute viscosities of liquid A, B and its Mixture (Only Demo)

REFERENCES

1. I Vogel, "***Elementary Practical Organic Chemistry Part-II, Qualitative Organic Analysis***", CBS Publishers & Distributers, New Delhi, Second Edition, 2004.
2. I Vogel, "***Elementary Practical Organic Chemistry Part III Quantitative Organic Analysis***", CBS Publishers & Distributers, New Delhi, Second Edition, 2004.
3. V.K. Ahluwalia, SunitaDhingra, "***Comprehensive Practical Organic Chemistry –Qualitative Analysis***", University Press (India) Private Limited, Hyderabad, FirstIndian Edition, 2010.
4. Mohan Jag, "***Organic Analytical Chemistry theory and Practice***", Narosa Publication, New Delhi, 2003.
5. J Leonard, B Lygo, G Procter, "***Advanced Practical Organic Chemistry***", StanleyThornes(Publishers) Ltd., First Indian Edition, 2004.
6. J .B.Yadav , "***Advance Physical Practical Chemistry***", Goel Publishing House, Meerut
7. P.H.Parsania, "***Experiments in Physical Chemistry***", Neminath Printers RajkotFirst Edition 2004.
8. A.M.. James and F.E.Prichard "***Practical Physical Chemistry***", Longman GroupLimited London Third Edition Reprinted 1979