Bioanalytical Techniques

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Preface

Science and technology by far depend upon experimental procedures involving one or more analytical methods. Experiments are conducted not only to predict phenomena, but also to validate the results. Analysis of chemical and biochemical entities is metaphorically the path to achieve the objectives of research in life sciences. In the past few decades, the field of life science has witnessed rapid advancements through development of highly sophisticated, automated, sensitive, and accurate analytical techniques. A vast range of analytical techniques and respective instruments are available, and therefore it is imperative to understand the principles, limitations, and alternatives of a given technique in order to apply it effectively to obtain useful results.

'Bioanalytical techniques' is included as a fundamental paper in most courses in chemistry, biochemistry, biology, pharmaceutical and clinical sciences, environmental, forensic and materials sciences. In the past 10 years of our career, we have felt a profound need for a comprehensive yet intensive textbook on analytical techniques that would serve the purpose of both students and researchers. This book has been written to fulfil the need for a text-cum-reference in undergraduate and postgraduate level curriculum, providing necessary information required to demonstrate the concepts of an analytical technique in all its guises.

The book emphasizes on imparting profound knowledge that is able to meet the current throughput screening demands of scientists and researchers. It consists of 12 chapters, encompassing techniques used for biological and biochemical separation, purification, identification and quantification, all put together to construct a compact package. The chapters have been prepared meticulously using simple yet lucid language. We have included a fairly good

number of state-of-the-art sophisticated techniques that would be beneficial to researchers in various fields for experimentation.

Many typical analytical procedures appear in the book as boxed features which give a snapshot of the techniques being widely used contemporarily in research. Throughout the book, wherever felt required, extended illustrative examples have been incorporated, which are to be read as part of the respective chapter. The format also encourages the reader to analytical thinking and practical application of the technique. This book will certainly prove to be an invaluable reference tool for students, teachers and researchers in the mentioned fields.

We express our gratitude to Almighty and all those who have contributed to the book in any manner. We thank our families for their encouragement and unconditional support. We also thank the editorial team of TERI Press for their continuous effort and faith in us.

We solicit constructive suggestions from all the readers for further improvement of the content of the book.

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