Chemical Analysis in the Quality System

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Chemistry is an exact natural science that treats the composition of substances and the transformations that they undergo. Therefore, analytical chemistry is a basis for all fields of chemical investigation and practice because it is incorporated in a ubiquitous information obtaining chain. Even in chemical synthesis one should analyse either the starting or intermediate reagents, or, even more frequently, the final product. Quality control is today, in the era of profit making, the only means to assure that we use and consume healthy and ecologically safe products. The globalisation of economies (whether we like it or not!) and information revolution is a must for all the countries and the same standards should be set and used worldwide. In this context inter- and multidisciplinary approach in analytical chemistry, as well as in any other field, is necessary to tackle our every day's problems. It is to praise the author, a distinguished professor of analytical chemistry at the Department of Analytical Chemistry of the Faculty of Chemical Engineering and Technology, University of Zagreb, for writing an analytical textbook on modern analytical chemistry with quality control in mind. This textbook is unique in several aspects. Firstly, at long last it is written by a Croatian author. Secondly, there are not many titles in the world's literature so clearly showing that analytical chemistry does not rely only on classical qualitative, quantitative and instrumental analysis. Analytical chemistry evolved in a problem solving system integrating chemometrics, physical chemistry, classical analytical chemistry, information science, philosophy in one mighty system based on expert and ethical approach. As the author in the introduction quoted a comment of an older academic when she was explaining the subject of this textbook »but all this is a basis of a home education« and I will add career education, as well. Therefore, introducing after each chapter a tribute to our Croatian university professors is most welcomed because the moral and professional virtues of everyone of us who had the privilege to be their students is in the heart of the »quality system«. The author showed with abundant examples that analytical data processing, planning the experiments or sampling is at least equally important as the measurement or knowledge and understanding of chemical and physical principles used in instrumental and classical analysis. The book is written in Croatian but it deserves to be published in English as well, because it is a pleasant refreshment in the field of analytical chemistry. It is aimed for the students of chemical and biochemical engineering and technologies, but everyone working in industry in order to optimise their own quality system might use it.

The content is divided in twelve chapters: 1. System approach to chemical analysis, 2. Errors in analytical system, 3. Statistical data evaluation and estimation, 4. Quality system, 5. Project management, 6. Sample and sampling, 7. Sample preparation, 8. Analyte separation and isolation, 9. Calibration procedures, 10. Performance characteristics of chemical measurement process, 11. Determination methods, and 12. Standards and standardisation. There are two appendices I. Security in laboratory work and II. Index of terms and acronyms.

The book is written in a popular way, it is very easily readable, in order that the reader accept an almost unperceivable system and philosophy behind complex and strict principles of quality control and assurance. The contribution of humorous illustrations made by Darko Macan is nicely incorporated in order to make the text reader friendly. I recommend this textbook to all the university libraries, students and chemical engineers and technologists.

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