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Handbook of analytical separations, vol 2: Forensic Sciences

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This book is a compendium of several review articles written by 40 authors from 9 countries. It is divided into the main sections *Forensic toxicology*, *Forensic chemistry* and *Forensic identification of individuals and biological traces*.

The main focus is certainly on the field of forensic toxicology, spanning 19 of the overall 25 chapters of the book. This fact is surely due to the special subject of the editor, M.J. Bogusz, who is primarily an expert in forensic toxicology.

The section *Forensic toxicology* is at first structured into substance classes, covering illicit drugs (opiates, cocaine, hallucinogens, cannabinoids), therapeutic drugs (sedatives, hypnotics, antidepressants, antipsychotics, non-opioid analgesics), *Doping substances* and a selection of so-called environmental poisons, including mushroom toxins, toxins of cyanobacteria, pesticides and substances potentially used as chemical weapons. Into this substance-oriented section chapters are inserted dealing with important themes like *Unconventional samples and alternative matrices*, *Enantioselective liquid chromatographic analysis* and, very important, *Aspects of quality assurance in forensic toxicology* and a systematic assay about *General unknown analysis*.

With the exception of one chapter dealing with *Drugs and driving* (which is not to be expected in a handbook of analytical separation procedures) all the other chapters in this section focus on extraction procedures and mainly chromatographic separation techniques for the abovementioned

substance classes from biological matrices, mostly urine, blood serum and plasma, but also from plants and preparations of illicit drugs. In several chapters additional techniques like immunoassay or capillary electrophoresis are also mentioned.

Whereas the first section of the book presents a wide range of details from the field of forensic toxicology, the second and the third sections only have the character of a short introduction into the fields of forensic chemistry and forensic DNA analysis.

In the three chapters devoted to *Forensic Chemistry* the reader is introduced to methods for the determination of explosives, accelerants from fire debris and writing media in a concise style. The chapters contain information on sampling strategies, sample preparation and extraction procedures and mostly chromatographic separation techniques.

The section *Forensic identification of individuals and biological traces* is divided into three chapters that give a historical overview of the rapidly evolving field of forensic genetics and focus in a concise style on two non-recombining genetic markers, Y-chromosomal and mitochondrial polymorphisms, that both have gathered increasing interest within the last few years.

Disadvantageous is the style of citation. Although the lists of references are substantial, it would be helpful for the reader who is interested in an original reference to have the full titles of the cited papers.

The addition of cross references between the single chapters would rather create the character of a book than of a collection of review articles.

All in all this book contains a lot of interesting information but due to the fact that its focus is unambiguously on the field of forensic toxicology it does not meet the requirements of the title *Forensic Science*.

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