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Solid Phase Extraction: State of the Art and Future Perspectives

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This book is a collection of 13 innovative papers describing the state of the art and the future perspectives in solid-phase extraction covering several analytical fields prior to the use of gas or liquid chromatographic analysis. New sorptive materials are presented including carbon nanohorn suprastructures on paper support, melamine sponge functionalized with urea-formaldehyde co-oligomers, chiral metal-organic frameworks, UiO-66-based metal-organic frameworks, and fabric phase sorptive media for various applications. Solid-phase extraction can be applied in several formats aside from the conventional cartridges or mini-column approach, e.g., online solid-phase extraction, dispersive solid-phase microextraction, and in-syringe micro-solid-phase extraction can be very helpful for analyte pre-concentration and sample clean-up. Polycyclic musks in aqueous samples, 8-Nitroguanine in DNA by chemical derivatization antibacterial diterpenes from the roots of *salvia prattii*, perfluoroalkyl substances (PFASs) in water samples by bamboo charcoal-based SPE, parabens in environmental water samples, benzotriazoles as environmental pollutants, organochlorine pesticide residues in various fruit juices and water samples and synthetic peptide purification are among the applications cited in this collection. All these outstanding contributions highlight the necessity of this analytical step, present the advantages and disadvantages of each method and focus on the green analytical chemistry guidelines that have to be fulfilled in current analytical practices.

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