

1. Record Nr.	UNINA9910683374403321
Titolo	Solid-phase microextraction and related techniques in bioanalysis // Hiroyuki Kataoka, editor
Pubbl/distr/stampa	Basel : , : MDPI, , [2023] ©2023
ISBN	3-0365-7046-2
Descrizione fisica	1 online resource
Disciplina	660.284248
Soggetti	Extraction (Chemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	About the Editor vii -- Preface to "Solid-Phase Microextraction and Related Techniques in Bioanalysis" ix -- Hiroyuki Kataoka -- Solid-Phase Microextraction and Related Techniques in Bioanalysis -- Reprinted from: <i>Molecules</i> 2023, 28, 2467, doi:10.3390/molecules28062467 1 -- Yesenia Mendoza Garc'a, Ana Luiza Coeli Cruz Ramos, Ana Cardoso Clemente Filha Ferreira -- de Paula, Maicon Heitor do Nascimento, Rodinei Augusti and Raquel Linhares Bello de -- Ara'ujo et al. -- Chemical Physical Characterization and Profile of Fruit Volatile Compounds from Different -- Accesses of <i>Myrciaria floribunda</i> (H. West Ex Wild.) O. Berg through Polyacrylate Fiber -- Reprinted from: <i>Molecules</i> 2021, 26, 5281, doi:10.3390/molecules26175281 5 -- Ana P. X. Mariano, Ana L. C. C. Ramos, Afonso H. de Oliveira J'uni'or, Yesenia M. Garc'a, Ana -- C. C. F. F. de Paula and Mauro R. Silva et al. -- Optimization of Extraction Conditions and Characterization of Volatile Organic Compounds of -- <i>Eugenia klotzschiana</i> O. Berg Fruit Pulp -- Reprinted from: <i>Molecules</i> 2022, 27, 935, doi:10.3390/molecules27030935 19 -- Yuri G. Figueiredo, Eduardo A. Corr'ea, Afonso H. de Oliveira Junior, Ana C. d. C. Mazzinghy, -- Henrique d. O. P. Mendon'ca and Yan J. G. Lobo et al. -- Profile of <i>Myracrodruon urundeuva</i> Volatile Compounds Ease of Extraction and Biodegradability -- and In Silico Evaluation of Their Interactions with COX-1 and iNOS -- Reprinted from: <i>Molecules</i> 2022, 27, 1633, doi:10.3390/molecules27051633 33 -- Zhenying Liu, Ye Fang, Cui Wu, Xian Hai, Bo

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Sommario/riassunto

Bioanalysis of endogenous substances, metabolites, and contaminants poisons is important in analyses of biological functions, metabolomics, forensic toxicology, patient diagnosis and biomonitoring of human exposure to hazardous chemicals. In these analyses, methods of sample preparation are essential for the isolation and concentration of target analytes from complex biological matrices. These processes, however, are time-consuming, labor-intensive and error-prone, and

markedly influence the reliability and accuracy of determining target analytes. Thus, efficient sample preparation techniques and their integration with analytical methods have become significant. Solid-phase microextraction (SPME) is a simple and convenient sample preparation technique that has enabled automation, miniaturization, high-throughput performance, and online coupling with analytical instruments. Moreover, SPME has reduced analysis times, as well as solvent and disposal costs. This book consists of 14 original, peer-reviewed papers for the Special Issue in the MDPI journal *Molecules*. The topics covered include headspace fiber SPME (HS-SPME) gas chromatography-mass spectrometry (GC-MS), HS-in-needle microextraction GC-MS, thin film SPME liquid chromatography-tandem mass spectrometry (LC-MS/MS), magnetic solid phase extraction LC-MS/MS, in-tube SPME LC-MS/MS and in-tube SPME LC-UV. Samples analyzed include plant-derived volatile organic compounds; body odor; metabolites in urine, plasma and saliva sample; and biomarkers of tobacco smoke exposure in hair and environmental estrogens.
