

1. Record Nr.	UNINA9910780728103321
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Titolo	High-performance liquid chromatography and mass spectrometry of porphyrins, chlorophylls and bilins [[electronic resource] /] / Chang Kee Lim
Pubbl/distr/stampa	River Edge, N.J., : World Scientific, 2010
ISBN	1-282-75824-1 9786612758249 981-4277-19-3
Descrizione fisica	1 online resource (245 p.)
Collana	Methods in chromatography ; ; v. 2
Disciplina	547/.593
Soggetti	Porphyrins Chlorophyll Tetrapyrroles High performance liquid chromatography Mass spectrometry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Preface; Chapter 1. Structure, Distribution, Biosynthesis and Function; 1.1. Introduction; 1.2. Nomenclature; 1.3. Biosynthesis of Porphyrins, Haem and Chlorophyll; 1.4. Biosynthesis of Bilins in Animals and Plants; 1.4.1. Degradation of haem to bile pigments; 1.4.2. Biosynthesis of bilins in plants, algae and cyanobacteria; 1.4.3. Degradation of chlorophyll in senescent higher plants; 1.5. Function of Porphyrins and Other Tetrapyrroles; References; Chapter 2. High-Performance Liquid Chromatography of Porphyrins; 2.1. Introduction; 2.2. HPLC of Porphyrin Methyl Esters 2.3. HPLC of Porphyrin Free Acids 2.3.1. Stationary phases for reversed-phase HPLC of porphyrins; 2.3.2. Mobile phases for reversed-phase HPLC of porphyrins; 2.3.3. Procedure for optimisation of porphyrin separation by reversed-phase HPLC; 2.3.4. Retention behaviour of porphyrins in reversed-phase HPLC; 2.4 HPLC of Porphyrinogens; References; Chapter 3. Mass Spectrometry of Porphyrins; 3.1. Introduction; 3.2. Fast Atom Bombardment (FAB) Mass Spectrometry of

Porphyrins; 3.3. Laser Desorption/Ionisation Time-of-Flight (LDI-TOF) Mass Spectrometry of Porphyrins
3.4 Electrospray Ionisation Mass Spectrometry (ESI-MS) and HPLC/ESI-MS of Porphyrins
3.4.1. HPLC/ESI-MS of porphyrins; 3.4.2. ESI-MS/MS fragmentation of porphyrins; 3.4.2.1. ESI-MS/MS product ion spectrum and fragmentation pathways of uroporphyrin; 3.4.3. ESI-MS/MS fragmentation of hydroxyuroporphyrins; 3.4.3.1. ESI-MS/MS product ion spectrum and fragmentation pathways of meso-hydroxyuroporphyrin; 3.4.3.2. ESI-MS/MS product ion spectrum of hydroxyacetic acid uroporphyrin; 3.4.3.3. ESI-MS/MS product ion spectrum of -hydroxypropionic acid uroporphyrin
3.4.3.4. ESI-MS/MS product ion spectrum and fragmentation pathways of -hydroxypropionic acid uroporphyrin
3.4.3.5. ESI-MS/MS product ion spectra and fragmentation pathways of cis- and transhydroxyspirolactoneurochlorins; 3.4.3.6. ESI-MS/MS product ion spectra and fragmentation pathways of cis- and transdihydroxyurochlorins; 3.4.3.7. Characteristic ESI-MS/MS product ions of hydroxyuroporphyrins; 3.4.4. ESI-MS/MS product ion spectra of ketoacid uroporphyrins; 3.4.5. ESI-MS/MS of heptacarboxylic porphyrin; 3.4.6. ESI-MS/MS of hydroxyheptacarboxylic porphyrins
3.4.7. ESI-MS/MS of ketoacid heptacarboxylic porphyrins and formyl heptacarboxylic porphyrin
3.4.8. ESI-MS/MS product ion spectrum and fragmentation pattern of coproporphyrin; 3.4.9. ESI-MS/MS of hydroxymethylcoproporphyrin; 3.4.10. ESI-MS/MS of -ketopropionic acid coproporphyrin and formylcoproporphyrin; 3.4.11. ESI-MS/MS product ion spectrum and fragmentation pattern of protoporphyrin; 3.4.12. HPLC/ESI-MS and MS/MS of meso-tetraphenylporphyrin derivatives; References; Chapter 4. Porphyrin Profiles in Blood, Urine and Faeces by HPLC and HPLC/ESI-MS; 4.1. Introduction
4.2. Sample Collection and Preparation

Sommario/riassunto

The porphyrins, chlorophylls, bilins and related tetrapyrroles are vital for all living organisms. Natural and synthetic tetrapyrroles are used extensively in foods, cosmetics, biotechnology, pharmaceuticals, diagnostics and medicine. Methods for their separation and characterization therefore, have a very wide area of applications. Yet, there is a dearth of books dedicated to HPLC and HPLC/MS of tetrapyrroles. Lim addresses this problem admirably by providing practical HPLC and HPLC/MS protocols coupled with in-depth chromatographic and mass spectrometric reference data. These are invaluable

2. Record Nr.	UNINA9910300259703321
Autore	Stroock Daniel W
Titolo	A Concise Introduction to Analysis // by Daniel W. Stroock
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-24469-8
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XII, 218 p.)
Disciplina	512.4
Soggetti	Functional analysis Functions of real variables Functions of complex variables Sequences (Mathematics) Integral equations Functional Analysis Real Functions Functions of a Complex Variable Sequences, Series, Summability Integral Equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Analysis on The Real Line -- Elements of Complex Analysis -- Integration -- Higher Dimensions -- Integration in Higher Dimensions -- A Little Bit of Analytic Function Theory.
Sommario/riassunto	This book provides an introduction to the basic ideas and tools used in mathematical analysis. It is a hybrid cross between an advanced calculus and a more advanced analysis text and covers topics in both real and complex variables. Considerable space is given to developing Riemann integration theory in higher dimensions, including a rigorous treatment of Fubini's theorem, polar coordinates and the divergence theorem. These are used in the final chapter to derive Cauchy's formula, which is then applied to prove some of the basic properties of analytic functions. Among the unusual features of this book is the treatment of analytic function theory as an application of ideas and

results in real analysis. For instance, Cauchy's integral formula for analytic functions is derived as an application of the divergence theorem. The last section of each chapter is devoted to exercises that should be viewed as an integral part of the text. A Concise Introduction to Analysis should appeal to upper level undergraduate mathematics students, graduate students in fields where mathematics is used, as well as to those wishing to supplement their mathematical education on their own. Wherever possible, an attempt has been made to give interesting examples that demonstrate how the ideas are used and why it is important to have a rigorous grasp of them.
