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Part 2: Aromatic compounds

Editor

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Preface

Nuclear Magnetic Resonance (NMR) is based on the fact that certain nuclei exhibit a magnetic moment, orient by a magnetic field, and absorb characteristic frequencies in the radiofrequency part of the spectrum. The spectral lines of the nuclei are highly influenced by the chemical environment i.e. the structure and interaction of the molecules. Magnetic properties of nuclei have been known since 1924 and the first Nuclear Magnetic Resonance experiment has been made in 1945.

NMR is now the leading technique and a powerful tool for the investigation of the structure and interaction of molecules. The present Landolt-Börnstein volume III/35 "Nuclear Magnetic Resonance (NMR) Data" is therefore of major interest to all scientists and engineers who intend to use NMR to study the structure and the binding of molecules.

In contrast to the 6th Edition of Landolt-Börnstein it is nowadays impossible to include the complete data in the printed version. The policy of the New Series Edition of Landolt-Börnstein is therefore to store all data and references in electronic files but only selected data and references in the printed version. The editors have decided to establish selected data by excluding less informative compounds and by avoiding long lists of solvents for one compound with respect to the printed version of this volume. The electronic version contains the complete data with consecutive entry numbering.

Volume III/35 "NMR-Data" is divided into several subvolumes and parts. Subvolume III/35A contains the nuclei ^{11}B and ^{31}P , subvolume III/35B contains the nuclei ^{19}F and ^{15}N , subvolume III/35C contains the nucleus ^1H , subvolume III/35D contains the nucleus ^{13}C , subvolume III/35E contains the nucleus ^{17}O , subvolume III/35F contains the nucleus ^{29}Si , and subvolume III/35G contains the nucleus ^{77}Se . More nuclei will be presented later.

The chemical shifts δ (in ppm) and the coupling constant J (in Hz) are given along with the complete references for the compounds in this volume. The data are arranged according to the compounds. The arrangement of the compounds is based according to structural point of views. Additionally the complete structural formulae are given for more complicated compounds (see General introduction).

The complete data including the structural formulae are available on the provided CD-ROM as PDF-files together with the program Adobe Acrobat Reader. You have to install only this program to jump directly into the data files and search for substances, references, chemical shifts, coupling constants and so on by the fulltext search engine. Additionally it would be possible to get the computerized data from the electronic version for numerical calculations and graphical presentations.

The editors kindly acknowledge the support of Dr. R. Poerschke and Dr. C. Meier from Springer-Verlag. The publisher and the editor are confident that this volume will increase the use of the "Landolt-Börnstein".

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Tribute

The present volume was begun by the late Dr. H.-O. Kalinowski, Justus-Liebig-Universität, Gießen, Germany, who could not continue the work on it. His books about the theory and applications of ^{13}C NMR are well known and helpful to many chemists. The author and the editors dedicate the volume to the memory of Dr. H.-O. Kalinowski.

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