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in Science and Technology

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Landolt-Börnstein

Numerical Data and Functional Relationships in Science and Technology

New Series

Group III: Condensed Matter

Volume 40

Nuclear Magnetic Resonance Data

Subvolume H

Chemical Shifts and Coupling Constants for Phosphorus-31

Part 1

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 Springer

ISSN 1615-1925 (Condensed Matter)

ISBN 978-3-642-32068-2 Springer Berlin Heidelberg New York

Library of Congress Cataloging in Publication Data

Zahlenwerte und Funktionen aus Naturwissenschaften und Technik, Neue Serie

Vol. III/40H1: Editors: R.R. Gupta, M.D. Lechner, V. Gupta

At head of title: Landolt-Börnstein. Added t.p.: Numerical data and functional relationships in science and technology.

Tables chiefly in English.

Intended to supersede the Physikalisch-chemische Tabellen by H. Landolt and R. Börnstein of which the 6th ed. began publication in 1950 under title:

Zahlenwerte und Funktionen aus Physik, Chemie, Astronomie, Geophysik und Technik.

Vols. published after v. 1 of group I have imprint: Berlin, New York, Springer-Verlag

Includes bibliographies.

I. Physics--Tables. 2. Chemistry--Tables. 3. Engineering--Tables.

I. Börnstein, R. (Richard), 1852-1913. II. Landolt, H. (Hans), 1831-1910.

III. Physikalisch-chemische Tabellen. IV. Title: Numerical data and functional relationships in science and technology.

QC61.23 .502'.12 62-53136

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Cover layout: Erich Kirchner, Heidelberg

Typesetting: Authors and Landolt-Börnstein Editorial Office, Heidelberg

SPIN: 12747696 63/3020 - 5 4 3 2 1 0 – Printed on acid-free paper

Preface

Nuclear Magnetic Resonance (NMR) is based on the fact that certain nuclei exhibit a magnetic moment, oriented 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 was performed 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/40 "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.

The present volume III/40H1 "Nuclear Magnetic Resonance Data, Chemical Shifts and Coupling Constants for Phosphorus-31" appears as a supplement volume to Landolt-Börnstein's New Series Group III, Volume 35, Subvolume A and provides NMR data published in the years 1996–2012.

The chemical shifts δ (in ppm) and the coupling constants 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 on their gross formulae according to the widely used Hill system. Additionally the complete structural formulae are given (see Introduction).

The complete volume, including links to the original citations, is also available online: you can navigate through the electronic version of this volume starting from the SpringerMaterials – The Landolt-Börnstein Database website www.springermaterials.com; simply select the volume from the electronic "Bookshelf" and jump directly into the PDF data file of interest or search for entries by the powerful search engine.

The editors wish to express their thanks to the author M. Kumar for this excellent volume. The encouraging and never-ending support of M. Klinge and A. Endemann from Springer-Verlag is kindly acknowledged. The publisher and the editor are confident that this volume will increase the use of the Landolt-Börnstein.

Osnabrück, Jaipur, January 2013

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III/40 Nuclear Magnetic Resonance Data

H: Chemical Shifts and Coupling Constants for Phosphorus-31

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