

NMR of Ordered Liquids // 456 pages // 2013 // E.E. Burnell, C.A. de Lange // Springer Science & Business Media, 2013 // 9789401702218

Google book. NMR of Ordered Liquids, E. Elliott Burnell and Cornelis A. de Lange (Eds.), Kluwer, Dordrecht (2003). Google book, BookZz. Solid-state NMR, in Handbook of Spectroscopy, volume: Methods 2: NMR Spectroscopy, Günter Gauglitz and Tuan Vo-Dinh (Eds.), Wiley-VCH, Weinheim (2003). BookZz. 2002. ionic liquids. nuclear magnetic resonance spectroscopy. molecular interactions. NMR enables the study of structure and dynamics in ILs providing information that allows the rationalization of the solvation behavior [2, 3]. Thus, by obtaining the profile of IL molecular interactions, it is possible to select and optimize the cation and anion identity and their relation to solvated species. In particular, the use of multinuclear NMR experiments and homo and heteronuclear correlation protocols enables the in-situ evaluation of cation-cation, cation-anion, anion-anion, and also IL-solute relationships. In neat imidazolium ILs (ImILs), H-bonds are formed between the cation and This book describes the main methods of one- and two-dimensional high-resolution nuclear magnetic resonance spectroscopy in liquids within the quantum-mechanical formalism of the density matrix. In view of the increasing importance of NMR in chemistry and biochemistry, the work is particularly addressed to those scientists who do not have a working knowledge of quantum calculations. This knowledge is provided in the first part of the book through a description of quantum mechanics as applied to spin systems. This section is self-contained and limited to essentials. A final chapter is devoted to NMR of Ordered Liquids Edited by E. Elliott Burnell University of British Columbia, Canada and Cornelis A. de Lange University of Amsterdam, The Netherlands Springer-Science+Business Media, B.Y. Page 3. A c.i.p. Catalogue record for this book is available from the Library of Congress. ISBN 978-90-481-6305-2 ISBN 978-94-017-0221-8 (eBook) DOI 10.1007/978-94-017-0221-8 Printed on acid-free paper All Rights Reserved © 2003 Springer Science+Business Media Dordrecht Originally published by Kluwer Academic Publishers in 2003. This book is dedicated to our dear wives Bonnie and Annette who put up with the many hours and late evenings, not to mention the early mornings, spent discussing and arguing about the various details of this project. Page 5. NMR Chemical Shifts of Common Laboratory Solvents as Trace Impurities. Hugo E. Gottlieb,* Va dim Kotlyar, and Abraham Nudelman*. Department of Chemistry, Bar-Ilan University, Ramat-Gan 52900, Israel. Received June 27, 1997. Of all the gases, methane required the most number of transients in order to obtain an observable signal by $^{13}\text{C}\{^1\text{H}\}$ NMR spectroscopy. In most cases, the ^{13}C chemical shift of methane was acquired through the use of $g\text{-}^1\text{H}\text{-}^{13}\text{C}$ NMR spectroscopy to provide enhanced sensitivity. In order to reflect what would be observed in typical NMR-scale experiments, ^{13}C detection was not pursued with isotopically enriched gases.