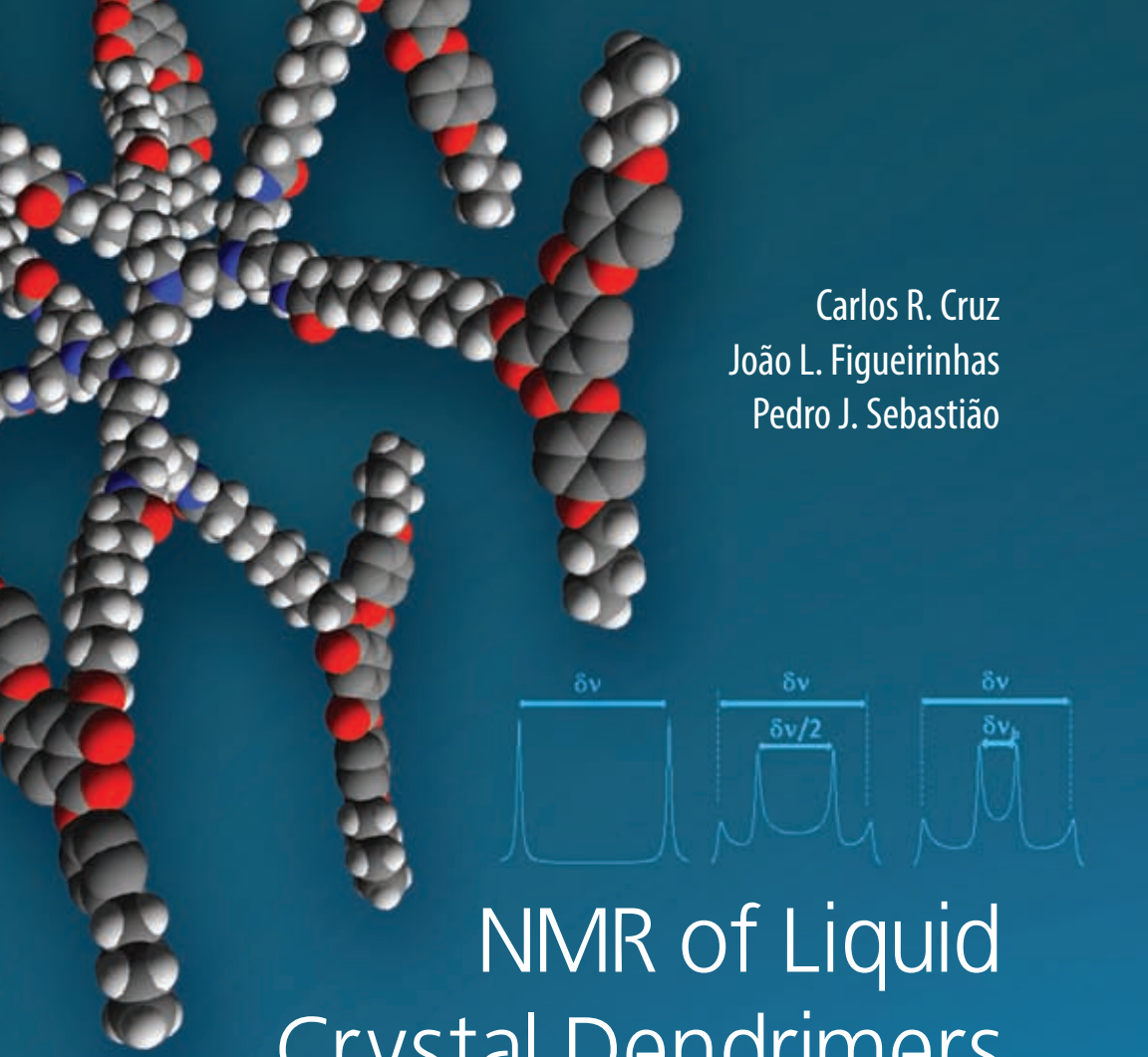

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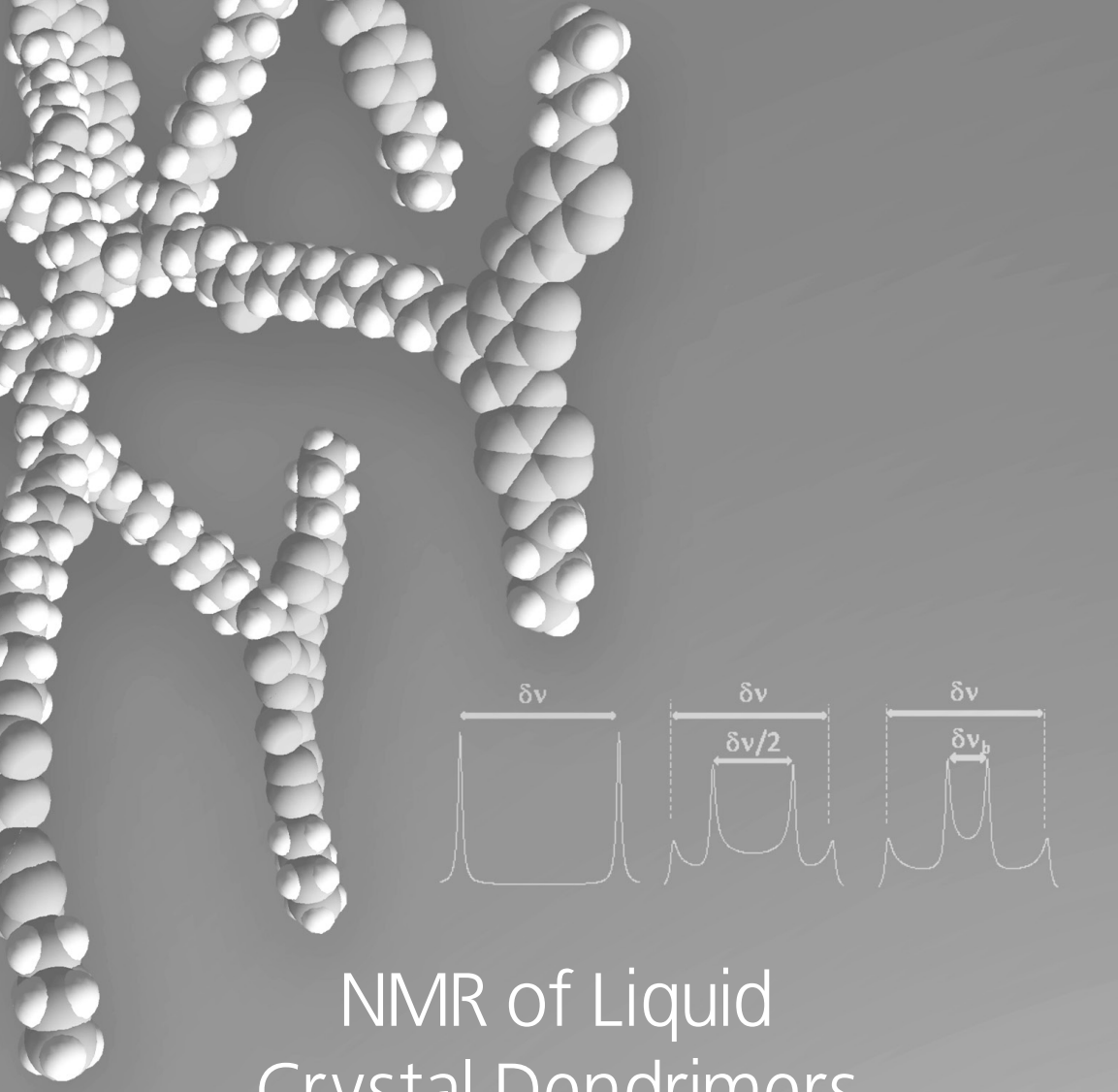

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Preface

This book, about nuclear magnetic resonance (NMR) studies on liquid crystal dendrimers, is expected to be useful for researchers and graduate students in the fields of dendrimers, liquid crystals, and NMR. Besides a general presentation of the structural properties of liquid crystal dendrimers' mesophases, the theoretical principles and experimental techniques of NMR, typically used for the study of these systems, are explained in an accessible way to graduate students of physics, chemistry, and materials science. Applications of these techniques in specific experimental studies are also presented.

Most of the experimental work on NMR spectroscopy and relaxation of liquid crystal dendrimers described herein was done in the framework of collaborations between the authors and several colleagues. The investigations carried out by these chemists and physicists were essential to the accomplishment of the results that were published in the literature and cited, particularly in Chapters 8 and 9. These achievements were possible, in a great part, due to the participation in two *Marie Curie* European projects funded by the European Commission, *LCDD, Supermolecular Liquid Crystal Dendrimers* (HPRN-CT-2000-00016) and *Dendreamers: Functional Liquid Crystalline Dendrimers, Synthesis of New Materials, Resource for New Applications* (FP7-PEOPLE-2007-1-1-ITN 215884), and the project *From Molecular Order and Dynamics to Biaxial Nematic Phases* (PTDC/FIS/65037/2006), funded by the Portuguese Science and Technology Foundation, FCT. The authors are grateful to the institutions that provided financial support to these projects and, above all, to those who took part in the investigations—all the *Marie Curie* fellows, young researchers, and the respective team leaders. Some of these colleagues are co-authors of the cited works, others are members of the teams participating in the

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Carlos R. Cruz
João L. Figueirinhas
Pedro J. Sebastião