Spectroscopy of Biological Molecules

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Edited by
Jean Claude Merlin
Sylvia Turrell
and
Jean Pierre Huvenne

Laboratoire de Spectrochimie,
Infrarouge et Raman, CNRS, UST Lille,
Villeneuve d'Ascq, France

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PREFACE

This volume contains the texts of lectures and posters presented at the Sixth European Conference on the Spectroscopy of Biological Molecules (ECSBM), held at the "Université des Sciences et Technologies de Lille", Villeneuve d'Ascq, France from 3rd to 8th September 1995 at the occasion of the tenth anniversary of the Conference.

During a NATO Summer School "Infrared and Raman Spectroscopy of Biological Molecules", organized by C. Sandorfy and T. Theophanides in Maratea (Italy) in 1983, a group of spectroscopists decided to organize a regular European meeting to check the lastest research results obtained by the different groups working in this field and to promote new cooperation between spectroscopists, biophysicists, biochemists and physicians. Since then ECSBM has been held biennially at Reims, France (1985), Freiburg, Germany (1987), Rimini, Italy (1989), York, United Kingdom (1991) and Loutraki, Greece (1993). The great increase in both the number of participants in this International Conference and in their countries of origin (from many countries outside as well as within Europe) during the last ten years has proved the necessity of this kind of meeting and the prosperity of this field of research.

Even if the scientific program of this series of Conferences is focussed on the structure and dynamics of biological molecules and related systems as determined by vibrational spectroscopies, a significant number of the presented contributions are devoted to a critically comparative review of progress as achieved through the application of other molecular spectroscopic methods such as NMR, CD, electronic absorption, fluorescence, inelastic neutron scattering, X-ray crystallography, computer graphics, simulation and molecular mechanics.

The contents of this volume have been organized in sections which correspond mainly to the nature of the biological material investigated: Proteins, Enzymes, Biological Pigments, Nucleic Acids, Biomembranes and Carbohydrates (II to VII). The general methods, not related to a specific biological problem, are included in the first section. The significant developments of the spectroscopic methods in the areas of Biomedical applications (microspectrometry and drug interactions) and Agrofood problems account for two specific sections (VIII and IX).

The book has been printed from camera-ready copies using the manuscripts exactly as supplied by the authors. We are grateful to authors for their cooperation in submitting their manuscripts on time and in the format prescribed by the
publisher. Our special thanks go to Jean-Paul Cornard for his precious aid in preparing the list of contents and authors index.

The first purpose of this book, available at registration, is to serve as a guide for Conference participants. But, as experienced in previous ECSBM, this volume has proved to be of great value to biologists and spectroscopists who could not participate in the Conference. It provides a substantial, broadly based account of the State-of-the-Art of this interdisciplinary field of research and can contribute to the development of new collaborations. For this reason, the contributions of many scientists who could not attend the Conference have been included in this volume.

We are grateful for financial assistance received from the "Commission of the European Communities", The "Université des Sciences et Technologies de Lille", The "Conseil Régional Nord Pas de Calais", the City of Villeneuve d'Ascq and the "Conseil Général du Nord". The Conférence was sponsored by the "Institut National de la Santé et de la Recherche Médicale". Finally we wish to acknowledge the staff of the "Laboratoire de Spectrochimie Infrarouge et Raman" (CNRS UPR 2631 L) for their contribution within the local organizing committee.

Jean Claude Merlin
Sylvia Turrell
Jean Pierre Huvenne

Editors
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