

NMR SPECTROSCOPY IN ORGANIC CHEMISTRY

PHYSICAL METHODS IN ORGANIC CHEMISTRY

B. I. Ionin and B. A. Ershov

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Б. И. ИОНИН, Б. А. ЕРШОВ

ЯМР-СПЕКТРОСКОПИЯ В ОРГАНИЧЕСКОЙ ХИМИИ
YAMR-SPEKTROSKOPIYA V ORGANICHESKOI KHIMII

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Preface

In recent years high-resolution nuclear magnetic resonance spectroscopy has found very wide application in organic chemistry in structural and physicochemical investigations and also in the study of the characteristics of organic compounds which are related to the distribution of the electron cloud in the molecules. The vigorous development of this method, which may really be regarded as an independent branch of science, is the result of extensive progress in NMR technology, the refinement of its theory, and the accumulation of large amounts of experimental material, which has been correlated by empirical laws and principles. The literature directly concerned with the NMR method and its application has now grown to such an extent that a complete review of it is practically impossible. Therefore the authors have limited themselves to an examination of only the most important, fundamental, and general investigations.

The book consists of six chapters. In the first chapter we have attempted to present the fundamentals of the NMR method in such a way that the reader with little knowledge of the subject will be able to use the method in practical work for investigating simple compounds and solving simple problems. The three subsequent chapters give a deeper analysis of the method, while the last two chapters and the appendix illustrate the various applications of NMR spectroscopy in organic chemistry. Thus, Chapters V and VI are more in the nature of reviews and include the material of many investigators working in various fields. In this connection we would like to thank all the scientists who have kindly offered us their work on nuclear resonance.

The authors are very grateful to Professor A. A. Petrov, who directed this work, and to Professor T. I. Temnikova for interest and help in the preparation of this book. The authors are also grateful to V. B. Lebedev and A. I. Kol'tsov for valuable consultations on the theory and equipment of nuclear resonance and for help in the preparation of individual spectra.

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