

Preface

The first edition of *Nucleic Acids in Chemistry and Biology* in 1990 met the pressing need for a single volume that integrated the chemistry and biology of nucleic acids in an introductory yet authoritative text. That book was so very well received that in 1996 we produced the second edition, which was completely revised and rewritten by very much the same team of international experts.

Ten years on we have responded to the still growing need for this book with a fully revised and updated third edition. Two irresistible pressures have driven this activity. First, the expansion in the chemistry and biology of nucleic acids continues unabated. The human and numerous lesser genomes have been fully sequenced since we presented the second edition and there has been a veritable explosion in the chemistry and biology of RNA. Many exciting crystal and NMR structures of nucleic acids and their protein complexes, including the ribosome, have been published. Changes of such magnitude have inevitably made significant parts of the 1996 text out of date. We have addressed these issues by expansion of the appropriate sections of the book and also by new authorship. Second, the second edition sold out several years ago. Indeed second-hand copies are occasionally available on the web at a handsome premium!

In planning this third edition, we first expanded the team of editors to include two younger colleagues, David Loakes and David Williams. We then changed publishing house to move under the roof of the Royal Society of Chemistry. For a variety of reasons it has been necessary to make changes to the team of principal authors and we thank especially Stephanie Allen, Martin Egli, Julie Fisher, Andy Flavell, Ihtshamul Haq, Charles Laughton, Ben Luisi, Anna Marie Pyle, Elliott Stollar, and Nick Williams for their essential and scholarly contributions. With the active support of the Royal Society of Chemistry and its commissioning and production teams, we have made significant changes in the style of presentation of this new edition. It now has a bibliography of primary and secondary sources that are referenced throughout the text. While we have maintained a number of multi-colour illustrations in addition to our standard two-colour format, we have abandoned the use of stereo-pair illustrations and the end-of-section summaries. These changes have created space for some expansion – but not enough for our needs: the third edition has grown substantially compared to its predecessor! This has enabled the authors to introduce a great deal of new material. In doing so, we have retained the essential core of chemistry and biology that has made this book so effective as a teaching resource at every level of study and an initiation into the molecular basics of nucleic acids. A selection of figures that may have value for course teachers are available electronically at the following website: <http://www.rsc.org/books/nucleicacids>

Above all, we have endeavoured to maintain the quality of the earlier editions, both of which have been widely appreciated for their easy readability, simplicity of exposition, clarity of illustration, and uniformity of style. That has underpinned our efforts to deliver a new edition that once again fulfils the needs of students and new research workers, primarily those having a chemical and biochemical background who seek to understand this great subject at a molecular level. Indeed, we know that *Nucleic Acids in Chemistry and*

Biology has become the course-book of choice in universities across three continents. At the same time, from many favourable comments on editions 1 and 2 we know that this book has also reached out to more senior scientists across many disciplines.

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