In the past decade we have witnessed unprecedented advances in RNA biochemistry. After the ground-breaking discovery of RNA interference as a central post-transcriptional mechanism of gene regulation by Fire and Mello, it is now clear that non-coding RNA molecules are involved in regulatory pathways on virtually all levels of the flow of genetic information. With the continuous discovery of novel RNA molecules with key cellular functions and of regulatory pathways and networks, there is an increasing need for structural information of RNA.
This volume provides an introduction into current biophysical techniques and prediction methods to assess structure and folding of RNA. Each chapter explains the theoretical background of a technique, and illustrates possibilities and limitations in selected application examples.

- Emphasis on theoretical background and illustrative applications
- Covers optical spectroscopy and calorimetry, footprinting, chemical probing, chemical biology, comparative gel electrophoresis, atomic force microscopy (AFM), optical tweezers, fluorescence resonance energy transfer (FRET), small angle X-ray scattering (SAXS), cryo-electron microscopy (cryo-EM), electron paramagnetic resonance (EPR), nuclear magnetic resonance (NMR), X-ray crystallography, RNA structure prediction
- Full color illustrations

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ISBN 978-3-11-028459-1