

CONTENTS

Improved Parameters for Prediction of RNA Secondary Structure and Insights into why RNA forms Double Helixes	1
D.H. Turner, S.M. Freier, N. Sugimoto, D.R. Hickey, J.A. Jaeger, A. Sinclair, D. Alkema, T. Neilson, M.H. Caruthers and R. Kierzek	
Anomalous Conformations of RNA Constituents: 2D NMR and Computational Studies	15
Cornelis Altona	
NMR Studies of Base-pair Kinetics of Nucleic Acids	31
Jean Louis Leroy, Daniel Broseta, Nicolas Bolo and Maurice Guéron	
Femtosecond Time Domain Spectroscopy of Structure and Dynamics in Nucleic Acids	45
Rudolf Rigler and Flora Claesens	
Z-RNA: A Left-handed Double Helix	55
Ignacio Tinoco, Jr., Phillip Cruz, Peter Davis, Kathleen Hall, Charles C. Hardin, Richard A. Mathies, Joseph D. Puglisi, Mark A. Trulson, W. Curtis Johnson, Jr. and Thomas Neilson	
A Better Way to Make RNA for Physical Studies	69
P. Lowary, J. Sampson, J. Milligan, D. Groebe and O.C. Uhlenbeck	
Mg ²⁺ -inner Sphere Complexes at "Ends" and "Bends" of Polynucleotides and their Potential Role as Long Range Inducers of Conformation Changes	77
Dietmar Porschke	
Pseudoknots in RNA: A Novel Folding Principle	87
Cornelis W.A. Pleij, Alex van Belkum, Krijn Rietveld and L. Bosch	
Proton NMR Studies of RNA's and Related Enzymes Using Isotope Labels	99
A.G. Redfield, B.-S. Choi, R.H. Griffey, M. Jarema, P. Rosevear, P. Hoben, R. Swanson and D. Soll	
CG Base Pairs and Variable Loop in Yeast tRNA ^{Asp}	113
D. Moras, P. Dumas and E. Westhof	

Correlation Between Crystal and Solution Structures in tRNA. Yeast tRNA ^{Phe} and tRNA ^{Asp} the Models for Free and Messenger RNA Bound tRNAs	125
Richard Giegé, Anne-Catherine Dock, Philippe Dumas, Jean-Pierre Ebel, Pascale Romby, Eric Westhof and Dino Moras	
The Solution Structures of RNA Fragments Determined by Nuclear Overhauser Enhancement Measurements	137
A.M. Gronenborn and G.M. Clore	
Molecular Dynamics Simulation of the Anticodon Arm of Phenylalanine Transfer RNA	151
Lennart Nilsson and Martin Karplus	
Anticodon-Anticodon Interactions and tRNA Sequence Comparison: Approaches to Codon Recognition	161
H. Grosjean, C. Houssier and R. Cedergren	
Studies on ¹⁵ N Labelled 5S RNA: Assignments in the Helix V Region of 5S RNA, and in the 5S/L25 Complex	175
M. Jarema and P.B. Moore	
Equilibria in Ribosomal RNA Secondary Structure	191
Rupert De Wachter	
A Comparative Analysis of Structural Dynamics in 5S rRNA	205
Martin Digweed, Tomas Pieler and Volker A. Erdmann	
A Domain of 23S Ribosomal RNA in Search of a Function	221
Asser Andersen, Niels Larsen, Henrik Leffers, Jørgen Kjems and Roger Garrett	
The Three-Dimensional Organization of <u>Escherichia coli</u> Ribosomal RNA	239
Richard Brimacombe	
The Extremely Small Mitochondrial Ribosomal RNAs from Trypanosomes	253
P. Sloof, R. Benne and B.F. De Vries	
Mutagenesis of Ribosomal RNA as a Method to Investigate Interactions Between rRNA, mRNA and tRNA	265
A. Dahlberg, W. Jacob, M. Santer, C. Zwieb and D. Jemioło	
Ribosomal RNA at the Decoding Site of the tRNA-Ribosome Complex	273
James Ofengand, Jerzy Ciesiolka and Kelvin Nurse	
Double Stranded RNA in the Decoding of the mRNA by the Bacterial Ribosome	289
V. Eckert, A. Lang, A. Kyriatsoulis and H.G. Gassen	
Conformational Dynamics Involved in RNA Self-Splicing	303
Thomas R. Cech, Francis X. Sullivan, Tan Inoue, John M. Burke, Michael D. Been, N. Kyle Tanner and Arthur J. Zaugg	

RNA Catalyzed Lariat Formation from Yeast Mitochondrial 23S-Ribosomal RNA	309
Henk F. Tabak, Annika C. Arnberg and Gerda van der Horst	
Viruses: Structure Formation and Function	315
Gerhard Steger, Volker Rosenbaum and Detlev Biesner	
Author Index	331
Subject Index	333