
Preface

In 1995, Humana Press published a book edited by Dr. Bret A. Shirley entitled *Protein Stability and Folding: Theory and Practice*. This book detailed the use of many of the most important techniques for studying the stability and folding of proteins, but emphasized the Practice more than the Theory. The current volume, *Protein Structure, Stability, and Folding*, is a companion to the earlier work. In this volume more emphasis is placed on the Theory, although chapters on exciting new experimental approaches are included. Together, the two volumes cover a broad range of experimental and computational approaches to studying and understanding protein structure, stability, and folding.

Since the publication of Shirley's work, there have been many exciting advances in both theory and experiment. Advances in the power of theoretical approaches now make it feasible to calculate many aspects of protein stability and dynamics from knowledge of the structure. The present book, *Protein Structure, Stability, and Folding* includes chapters on these calculations, as well as approaches for calculating conformational entropy and performing molecular dynamics simulations of protein unfolding. New experimental approaches are also being used to look at stability and folding. These include the use of co-solvents, new applications of hydrogen exchange techniques, temperature-jump methods for looking at fast folding events, and new strategies for mutagenesis experiments.

I would like to thank all the authors who contributed to this book for their hard work and extraordinary patience. I would also like to thank my colleagues in the Department of Biochemistry and especially the members of my laboratory for their encouragement in this project. Finally I would like to thank my wife, Lee, and my children, Kevin, Katie, and Ellen, whose love and faith make it all worthwhile.

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