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This book tries to give that necessary theoretical background. It is certainly not a complete exposition of macromolecular binding, only an introduction that emphasizes some selected fundamental topics. The analytical methods of assaying macromolecular binding I have mainly left aside, though I do present what I hope will be some useful general advice on designing binding assays and how to interpret them. I also have summarized qualitative features of binding sites on proteins and nucleic acids, an area that is now referred to as "molecular recognition". But my main purposes have been to show how to use the binding polynomial approach in model building and interpretation, and to show how linkage thermodynamics can tie together disparate binding observations. Whenever possible, I have tried to tie the theory to concrete examples drawn from the research literature. I have also included a substantial number of references to the original literature, for those who might wish to pursue further any of the topics presented.

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