

## CHAPTER OVERVIEW

### 8: Polymer Lattice Models

Polymer lattice models refer to models that represent chain configurations through the placement of a chain of connected beads onto a lattice. These models are particularly useful for describing the configurational entropy of a polymer and excluded volume effects. However, one can also explicitly enumerate how energetic interactions between beads influences the probability of observing a particular configuration. At a higher level, models can be used to describe protein folding and DNA hybridization.

[8.1: Entropy of Single Polymer Chain](#)

[8.2: Self-Avoiding Walks](#)

[8.3: Conformational Changes with Temperature](#)

[8.4: Flory–Huggins Model of Polymer Solutions](#)

[8.5: Polymer–Solvent Interactions](#)

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1. K. Dill and S. Bromberg, *Molecular Driving Forces: Statistical Thermodynamics in Biology, Chemistry, Physics, and Nanoscience*. (Taylor & Francis Group, New York, 2010); S. F. Sun, *Physical Chemistry of Macromolecules: Basic Principles and Issues, Array ed.* (J. Wiley, Hoboken, N.J., 2004), Ch. 4.

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