



Figure 15-22
Electron density maps as a function of resolution. (a) Two strands of poly-L-alanine antiparallel β sheet within a two-dimensional unit cell. C_2 and 2_1 symmetry axes of a planar projection of the structure are indicated. (b) Calculated structure factor data for a two-dimensional crystal, formed by projecting the structure shown in part a onto the a - b plane. The circles show the data that would be sampled for analysis at resolutions of 4 Å, 2 Å, and 1 Å (indicated by increasingly large circles). The filled dots indicate $F(h, k) > 0$; the open dots indicate $F(h, k) < 0$. The size of each dot is proportional to $|F(h, k)|$. (c) An electron density map at 4 Å resolution, calculated from part b. (d) An electron density map at 2 Å resolution, calculated from part b. (e) An electron density map at 1 Å resolution, calculated from part b. [After R. D. B. Fraser and T. P. McRae, in *Physical Principles and Techniques of Protein Chemistry*, part A, ed. S. J. Leach (New York: Academic Press, 1969).]