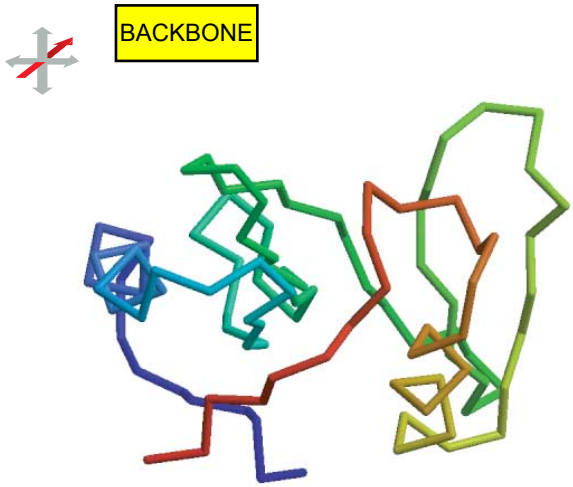
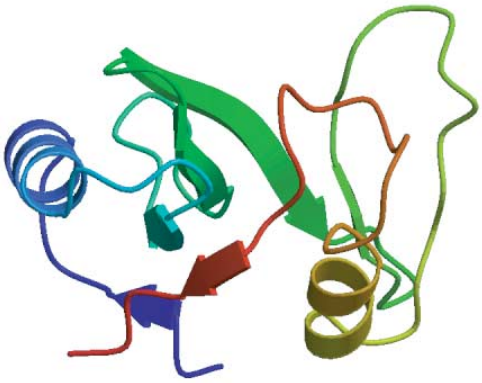
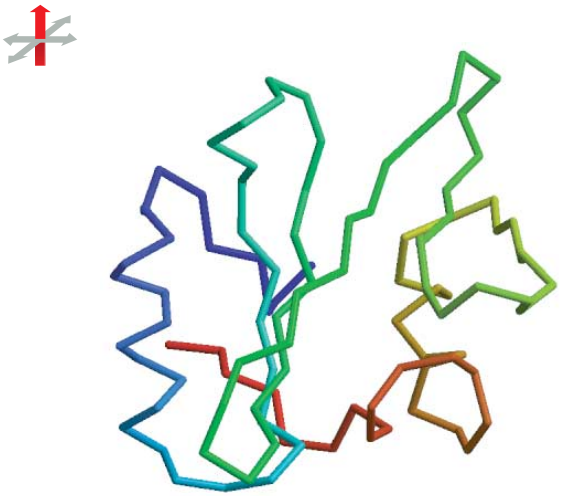
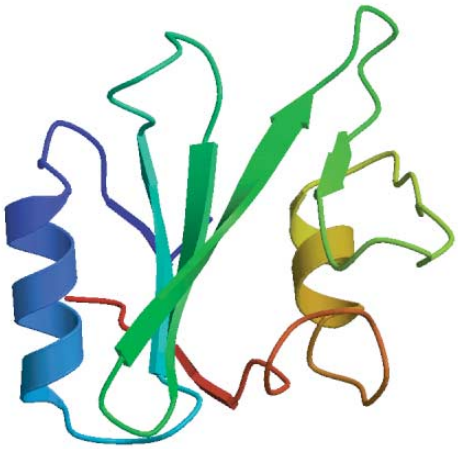
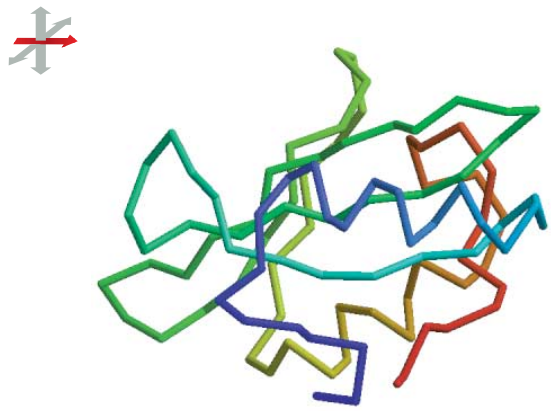
Panel 4–2 Four different ways of depicting a small protein

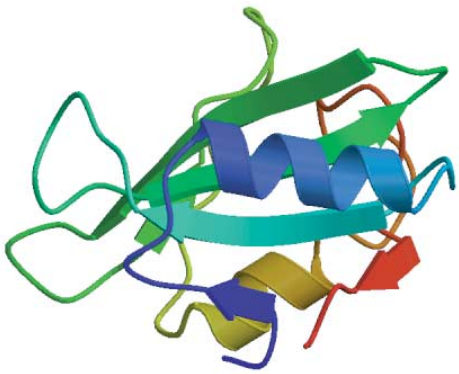








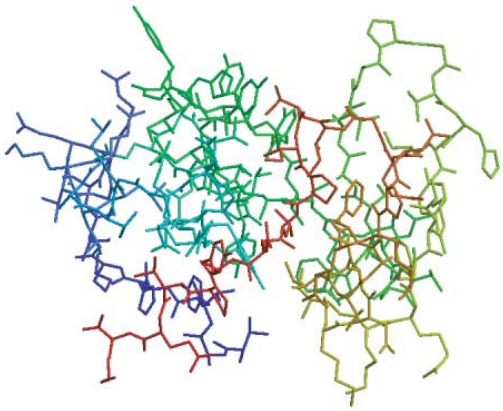




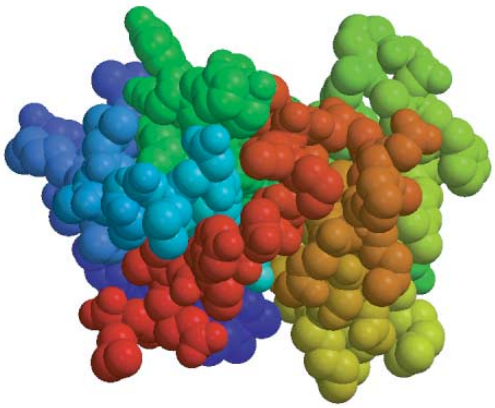
(A) Backbone: Shows the overall organization of the polypeptide chain; a clean way to compare structures of related proteins.

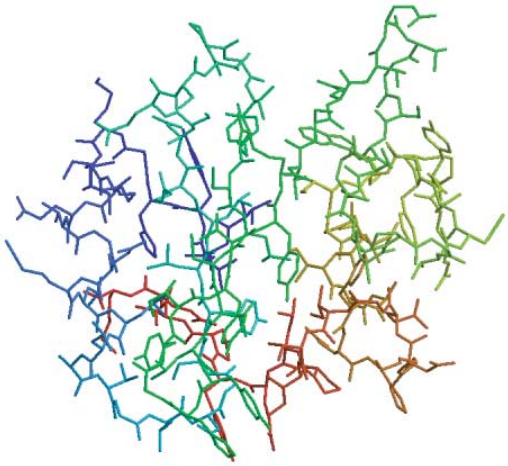
(B) Ribbon: Easy way to visualize secondary structures, such as α helices and β sheets.

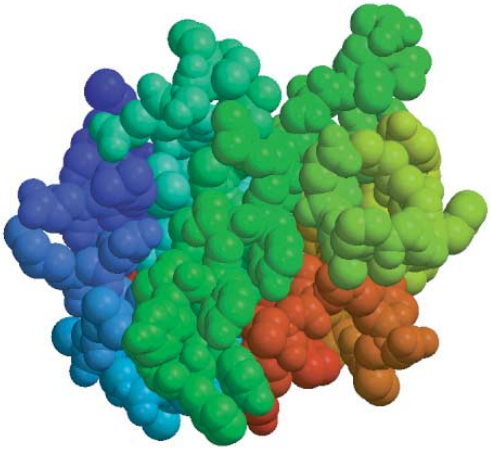
WIRE

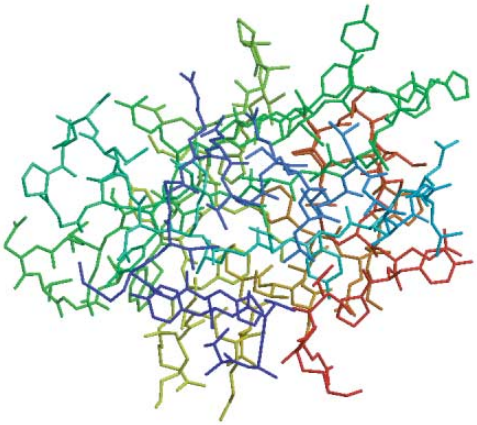


SPACE FILLING

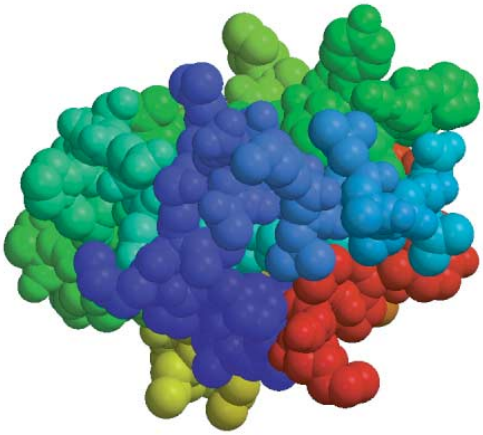








(C) Wire: Highlights side chains and their relative proximities; useful for predicting which amino acids might be involved in a protein's activity, particularly if the protein is an enzyme.



(D) Space-filling: Provides contour map of the protein; gives a feel for the shape of the protein and shows which amino acid side chains are exposed on its surface. Shows how the protein might look to a small molecule, such as water, or to another protein.

(Courtesy of David Lawson.)