

Chapter Twenty-Two

- 22.9 $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ is more soluble in water than $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$ because it can hydrogen bond with water.
- 22.10 Propanol, $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$, has the higher boiling point, due to its capacity for hydrogen bonding.
- 22.12 Compound B is more soluble in water because of its polar nature and its capacity for hydrogen bonding.
- 22.60 Carbohydrates are naturally occurring polyhydroxyaldehydes and polyhydroxyketones, or substances that give these on hydrolysis. They include the monosaccharides, the disaccharides and the polysaccharides. Examples are sucrose, starch and cellulose.
- 22.66 Amylose constitutes 20 % of starch. It is one of two kinds of glucose polymer in starch, the other being amylopectin. Amylopectin is larger than amylose, because it is composed of numerous amylose molecules linked by oxygen bridges. See page 934 of text.
- 22.69 Lipids are substances that are found in living systems and that are soluble in nonpolar solvents such as ethers and benzene. The lipids include a diverse range of substances such as cholesterol, and hormones, as well as fats, oils, fatty acids, and other materials known as triacylglycerols.
- 22.70 Large portions of lipids are made up of nonpolar hydrocarbon-like segments.
- 22.84 The two strands in DNA are held together by hydrogen bonds between specific base pairs, as shown in Figures 22.14 and 22.15.
- 22.86 DNA and RNA differ in the identity of the monosaccharide. In RNA it is ribose. In DNA it is deoxyribose. Also, DNA uses the bases A, T, G, and C, whereas RNA uses the bases A, U, G, and C.
- 22.87 (a) In DNA, A pairs with T.
(b) In RNA, A pairs with U.
(c) C pairs with G.
- 22.103 (a) amine (b) amine (c) amide (d) amine, ketone
- 22.104 (a) ether, amine
(b) ether, amide
(c) ester, aldehyde
(d) ester, carboxylic acid