

Pg. 193:

4. sp^3 hybridization is where one s and three p orbitals have combined to form a new orbital with lower energy.
5. Hydrogen bonding is responsible for water's high boiling point. In general, boiling point is a measure of the amount of energy required to overcome intermolecular attractions. Hydrogen bonding, a particularly strong dipole-dipole force, causes a powerful attraction between water molecules, which results in a high boiling point.

Pg. 196:

26. a. Hybrid orbitals are identically shaped orbitals of equal energy that are produced by the mixing of two or more atomic orbitals of similar, but not identical, energies on the same atom.
27. a. Intermolecular forces are forces of attraction between molecules (covalent compounds).
27. c. The strongest intermolecular forces occur between polar covalent molecules.
29. a. Dipole-dipole forces are forces of attraction between polar molecules due to the attraction of opposite charged ends lining up.
31. a. Hydrogen bonding is a particularly strong dipole-dipole force that occurs among molecules containing hydrogen atoms and highly electronegative atoms, such as N, O, or F. They are the strongest intermolecular force.
32. London dispersion forces are intermolecular forces due to motion of electrons creating instantaneous oppositely charged poles. They are the weakest intermolecular force and the ONLY intermolecular force for nonpolar covalent compounds