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Chapter 1  
States of Matter  
  
Binding Forces Between Molecules  
  
For molecules to exist as aggregates in gases, liquids, and solids, intermolecular  
forces must exist,  
  
A- Intermolecular forces, B- Intramolecular forces  
  
Intramolecular force  
  
An intramolecular force is any force that holds together the  
atoms making up a molecule or compound. They contain all types of chemical bond.  
They are stronger than intermolecular forces, which are present between atoms or  
molecules that are not actually bonded.  
  
Types of intramolecular force  
  
There are three main types of intramolecular force, distinguished by the types of  
constituency atoms and the behavior of electrons:  
  
Types of intramolecular force:  
1- Ionic intramolecular forces  
  
2- Covalent interaction  
  
3- Metallic interaction  
  
Intermolecular forces are forces of attraction or repulsion which act between  
  
neighboring particles (atoms, molecules or ions).. They are weak compared to the  
  
intramolecular forces, the forces which keep a molecule together. Intermolecular  
  
bonding is largely governed by electron orbital interactions  
  
Intramolecular force Intermolecular force  
(strong) (weak)  
  
H eeedeene H  
  
Cohesions  
  
Cohesion, or the attraction of like molecules, and adhesion, or the attraction of unlike  
molecules  
  
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