

Unit 8 – Ch 13 – Intermolecular Forces (IMF)

INTRAMOLECULAR FORCES:

- _____ forces _____ **BONDS**.
 - *Molecular* can refer to _____, _____, or _____.

INTERMOLECULAR FORCES:

- _____ - Attractions and repulsions _____ **MOLECULES**.
 - Some IMF's may be stronger than each other...
 - But _____ are _____ than _____
(*bonding*) forces.

TYPES OF IMF's: (Ranked from STRONGEST to WEAKEST)

➤ 1. NETWORK COVALENT (NC)

- _____ *compound (or element)* bonded in a _____, continuous _____ extending throughout the substance.
- Ex: _____ ; _____ ; _____

➤ 2. ION-DIPOLE (I-D)

- Between an _____ and one end of a _____ molecule:
 - _____ Compounds → “_____ of valence electrons”

➤ 3. METALLIC (M)

- Metallic _____ organized as a “_____”.

➤ 4. HYDROGEN BONDS (H-B)

- Strong _____ attraction _____ formed between _____ and _____, _____, or _____ in _____ molecules (**LEWIS STRUCTURE**)

➤ **5. DIPOLE-DIPOLE (D-D)**

- Attraction between _____ ends of two _____ molecules (**LEWIS STRUCTURE**)

- “ _____ sharing of valence electrons”

➤ **6. LONDON DISPERSION FORCE (LDF)**

- Results from _____ of _____ around an atom's _____.

- Exists in _____ molecules (**LEWIS STRUCTURE**)

- “ _____ sharing of valence electrons”

- _____ of all the _____ forces (**IMF**) and has the _____ melting point (**MP**).

PROPERTIES OF SOLIDS & LIQUIDS:

➤ **SOLIDS:**

- **Crystalline Solids** - _____ atom arrangement.

- **A: Ionic Solids** - _____ bonds

- **B: Molecular Solids** - _____ bonds

- **C: Network Covalent (NC)** - _____ atoms _____ bonded in _____.

- **D: Metallic Solids** - _____ bonds

- **Amorphous Solids** - _____ arranged solid (*no order*)

➤ **LIQUIDS:**

- **Viscosity** – Measure of _____ to flow.

- _____ as temperature _____ due to increased _____ energy of particles.

- _____ easily compressed.