

Why do ionic bonds have strong intermolecular forces (imfs) and why covalent bonds have weak intermolecular forces?

Answer: Intermolecular forces are forces of attraction or repulsion which act between neighboring particles (atoms, molecules or ions). These forces are a form of electromagnetic forces which act between electrically charged particles. In case of ionic compounds, which consist even in solid state from individual ions, and every ion has an electric charge (it means that every ion has an excess or deficiency of electrons), imfs will be very strong because the electromagnetic interaction between separate ions is much larger than between separate molecules.

Covalent compounds don't have ions in their structure, only atoms, connected with covalent bonds, and these atoms have only partial electric charges, because electrons in covalent bonds are not separated between atoms, but they're becoming collective for atoms which form the covalent bond. Then, imfs will be much weaker than between ions, because the electromagnetic interaction between partially charged atoms in separate molecules is weaker than between separate ions.