

Practice ...

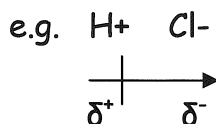
Use the table of electronegativities to calculate the value of ΔEN for each of the following pairs of atoms and predict the type of bond formed between them in each case.

ELEMENTS	ΔEN	TYPE OF BOND
Lithium & sulfur	1.5	polar covalent (Ionic?)
Carbon & bromine	.3	non polar covalent
Fluorine & silicon	2.2	Ionic
Magnesium & nitrogen	1.8	Ionic
Hydrogen & germanium	.3	non polar covalent

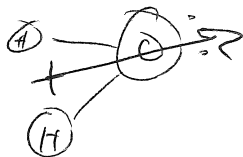
Choose the letter of the word or phrase that best completes the statement or answers the questions.

- $\Delta EN = 0.3$ for two atoms in a molecule suggests that the bond between them is
 a. Ionic b. nonpolar c. metallic d. polar covalent
- In ΔEN , the Greek letter delta (Δ) stands for
 a. electronegativity b. bond type
c. difference d. charge
- Diatomic molecules of elements always have
 a. Ionic bonds b. nonpolar covalent bonds
 c. metallic bonds d. polar covalent bonds
- Mark the molecule that is more polar!
 a. H - P OR H - C
 b. O - F OR O - I
 c. N - O OR S - O
d. N - H OR Si - H

V.] Polar Covalent Molecules (Dipoles)



e.g. water (H_2O)



Water is a polar molecule (dipole). As a result ...

- A. It is an excellent solvent.
- B. It has a high boiling point (H-bonds) ... it is a liquid at room temperature (compare to H_2S)