

The Difference in Electronegativity Between Atoms in a Chemical Bond Determines the Type of Bond

The difference in the electronegativities of the atoms participating in a chemical bond can be used as a guide to predict the nature of the chemical bond.

1. Use the information provided by the text page 84 to complete Table 1.

Table 1: Range of Negativity Values and the Associated Nature of the Chemical Bond

| Type of Chemical Bond | Range of Electronegativity Values |
|-----------------------|-----------------------------------|
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2. Table 2 lists numerous pairs of atoms that can form chemical bonds. Calculate the difference in electronegativities of the atoms participating in the bond and predict the kind of chemical bond that forms between these pairs of atoms. The first one is done for you as an example.

Table 2: Predicting the Type of Bond from Differences in Electronegativity.

| Atoms Participating in the Bond | Electronegativity of the Atoms Participating in the Bonds | | Difference in Electronegativity | Type of Bond |
|---------------------------------|---|-----|---------------------------------|--------------|
| H-H | 2.1 | 2.1 | 0 | covalent |
| H-S | | | | |
| Na-N | | | | |
| C-S | | | | |
| Cl-F | | | | |
| F-F | | | | |
| C-H | | | | |
| H-O | | | | |
| O-H | | | | |
| H-F | | | | |
| H-Cl | | | | |
| C-O | | | | |
| C-C | | | | |
| Na-Cl | | | | |
| Mg-O | | | | |
| H-Br | | | | |
| K-Cl | | | | |
| H-N | | | | |
| S-O | | | | |