تفريغ المحاضرة الثانية

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كُتب بواسطة:نور سلامة

(1-2) IONIC AND COVALENT BONDS

=The stability can be achieved by:

1-complete transfer of electrons from one atom to another {ionic bond}

2-sharing the electrons between atoms {covalent bond}

** NOTE : atoms transfer electrons in away that it will reach the electronic configuration of the NOBLE GASES.

**NOTE :the tendency to loss or gain an electros comes from the ELECTRONEGATIVITY.{WHICH increase from the *left to the right*, and increase from *down to up*}

**NOTE :the most electronegative atom in the periodic table is the CHLORINE ION.

**NOTE : if we want to make an ionic compound we need an atom which is more electronegative to the right, and another atom which is more electropositive to the left

**NOTE : the atoms in the middle of the periodic table don't have a tendency to loss or gain electrons so they can *share* them (like carbon).

COVALENT BOND:

1-Between atoms which have the same type

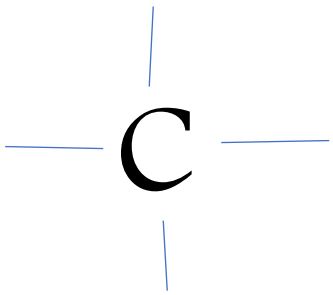
-the simplest covalent compound is H2 {H-H}

CL2{CL-CL}

2-Between atoms have different types

-the simplest is CH4

(1-3)CARBON AND ITS COVALENT BONDING



(1-4) CARBON – CARBON SINGLE BOND

C2H6 → **C — C**

(1-5) POLAR COVALENT BONDS

=if the compound consists two atoms with the same nature then it is [non-polar compound]

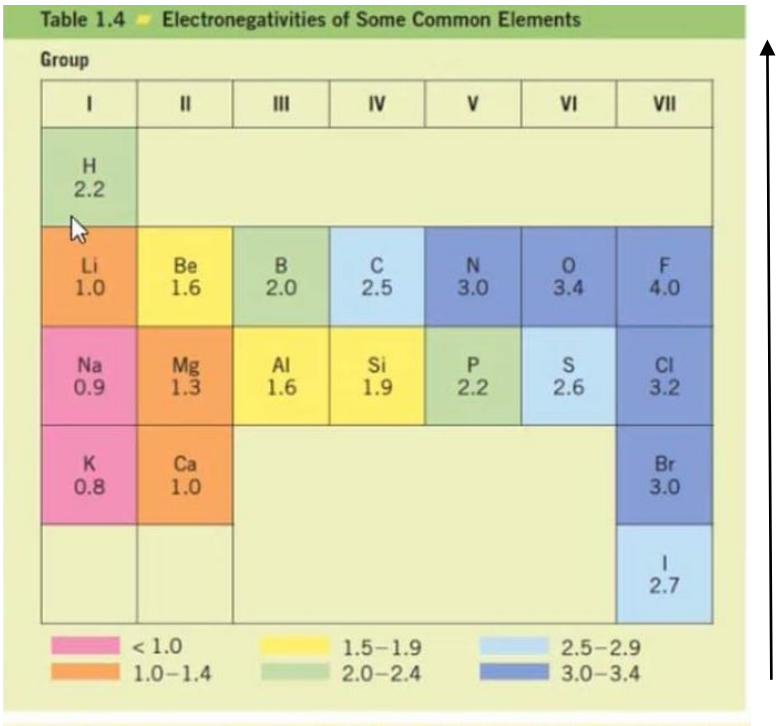
=if there is a difference in electronegativity between two atoms then it is [polar compound]

h-cl

we draw an ARROW which is directed to the more - electronegative atom….the hydrogen atom has a partial positive charge [less electronegative],and chlorine has a partial negative charge [mora electronegative]

H-O C-N C-CL H-S C-O

NOTE : in the organic chemistry we always consider the carbon-hydrogen bond as ***non-polar*



(1-6) MULTIPLE COVALENT BONDS

IT COULD BE : either double or triple bond*

In order to draw the LEWES STRUCTURE we need to calculate the valence electros first and then the OCTET RULE.

CO2

4+2*6=16

O=C=O

HCN

1+4+5=10

H−C≡N

(1-7) VALENCE :number of bonds that an atom can form

atom	H	C	N	O	F
valence	1	4	3	2	1

=draw all structures of these molecules: