

ORGANIC CHEMISTRY.

- BASED ON C.

- ALSO HAS H, O, N, HALOGENS,
S OR P

C - RULE# 4 BONDS.

- MAY HAVE SINGLE, DOUBLE AND/OR
TRIPLE BONDS.

- REACTIVE INTERMEDIATES MAY HAVE
3 BONDS

- CARBOCATIONS, CARBANIONS, ^{FREE} RADICALS

- ARE A FEW COMPOUNDS WITH 2 BONDS
CARBENES

BONDING

- ELECTRONEGATIVITY = E_N
OF C = 2.5 MID RANGE

SO IF

$\Delta E_N < 0.5$ COVALENT

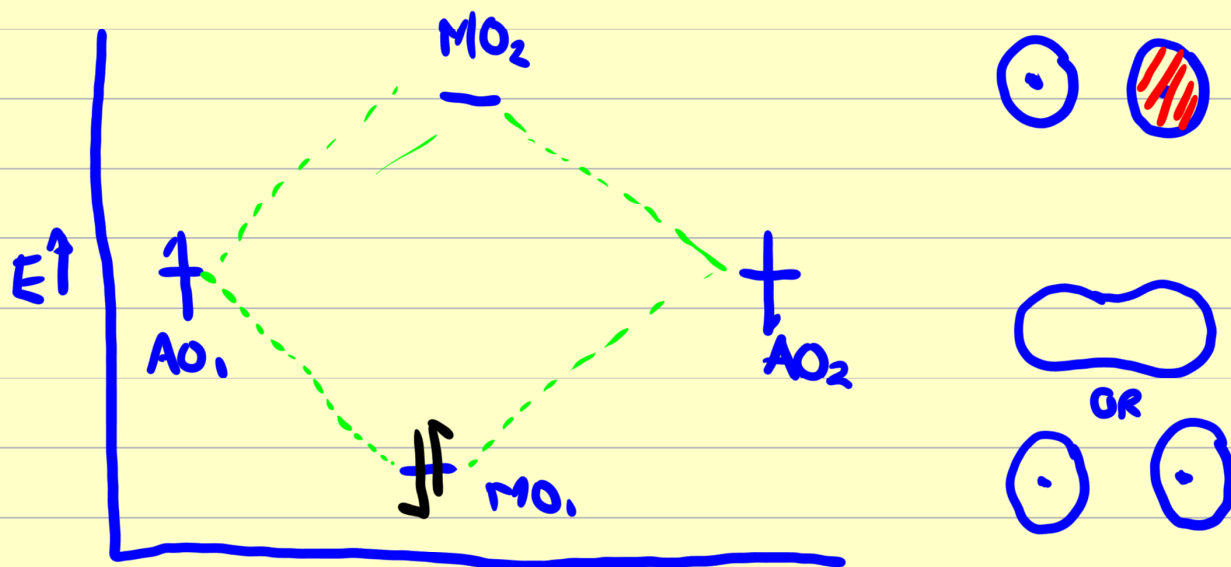
ΔE_N $0.5 < \Delta E_N < 1.7$ POLAR
COVALENT

$\Delta E_N > 1.7$ IONIC

"ALWAYS" COVALENT OR POLAR
COVALENT.

- IF COVALENT, BONDING BEST
EXPLAINED BY OVERLAP OF ORBITALS.

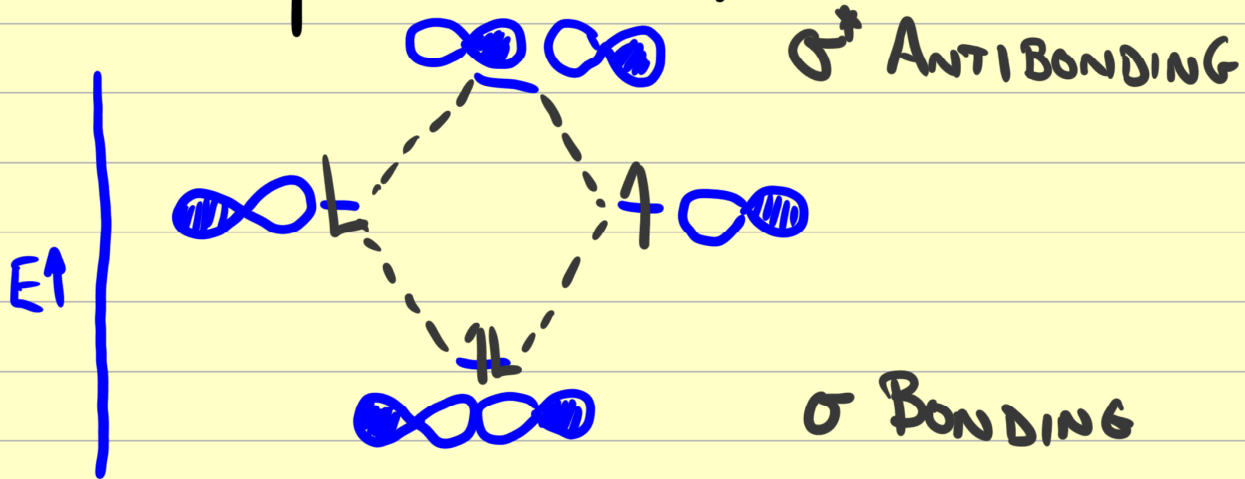
DEVELOP MOLECULAR ORBITALS (MO'S)
 BY COMBINING ATOMIC ORBITALS
 LCAO / MO APPROACH



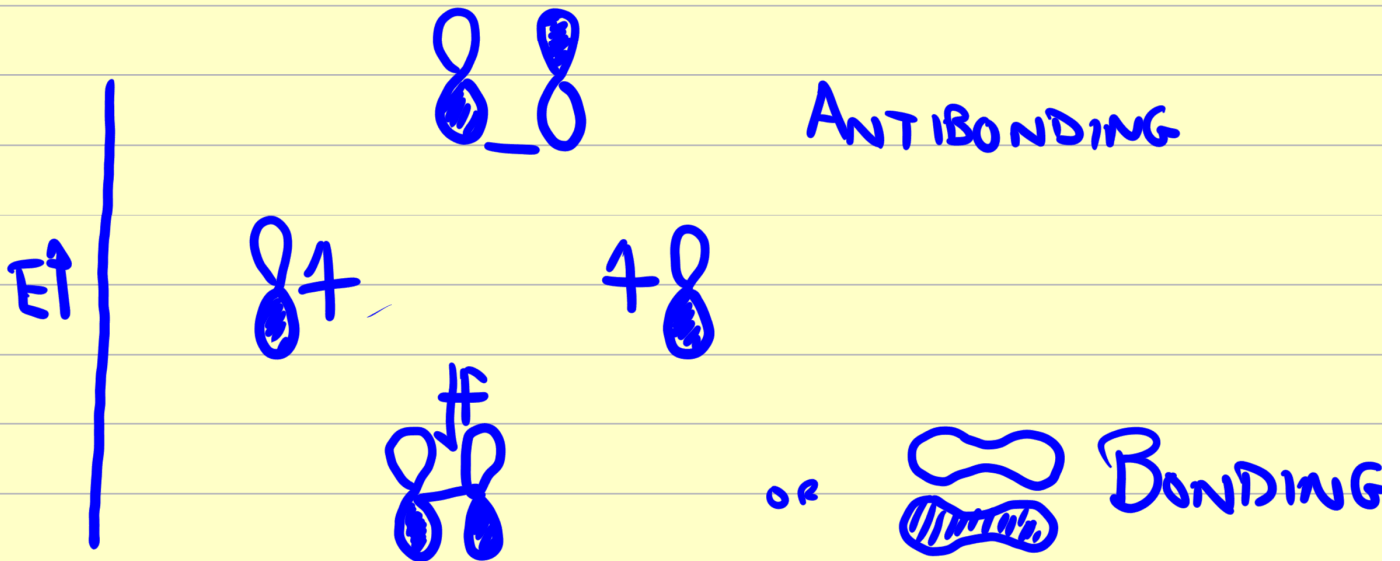
MO₁ - BONDING - σ BOND
 (NO PHASE CHANGE)

MO₂ - ANTIBONDING σ^*

FOR p-ORBITALS.



2ND ARRANGEMENT POSSIBLE
- SIDE ON INTERACTION



- CALLED π (π) AND π^*
RESPECTIVELY.
(1 PHASE CHANGE)

- IF YOU HAVE d ORBITALS,
CAN HAVE \int BONDS
(2 PHASE CHANGES)

organ in chemistry.

- based ON C.

-ALSO HAS It, oil, Halogen,

SorP

C -RULEt 4 Bonds.

- MAY' Have Single,DOUBLE And/or
TRIPLE Bonds.

r Reactive Itterrtediates Mai Have

3 BONDS

Free

r CARBOCATIONS CARBANIONS, Radicals

- Are a FEW CORIPOUNDS inith 2 Bonds

CARBENES

I -

Bonding. r

- Electro negativity = En

Of C =2.5 NKDRANGE

So IF

OE., 71.7 Ionic

11

-7 An HAY'S CovallrhltorPocar

COXALEht.

- if Coxalenit, Bonding BEST

Explained BIOXERLAPOFORBIMLS.

-Dexeiop MOLECULAR ORBITALS(N10'S)

BY Con'1131n11nG ATOMIC Orbital S

LCAOIMO APPROACH

t\ t H\ s It-H

1x102

. i... ..

n -

r t Co

Ao, AOz

iiii i...

Mo.-Bonding- o BOND

(NO PHASE CHANGE)

p'loz-ttnitiboniding ox,

FOR 10- ORBITALS.

111111 GHQ olx AnitlBoNDinC

EP .. 'IL !

11/1/1111 cab" o Bonding

2 ND ARRAnGEME NT POSSIBLE
n Side ON In iteracTIon I
1/14 fl ANTIBOnIDyNG

w Called tr (PI) AnID xiix
Respectively.
/ (i PHASE CHANGE)
m IF 'iou Have d ORBI in-is.
CAnl Have S Bonds
12 PHASE CHANGES)

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