Today

Next Class

Finish Day 3
Section 1.4: Different ways of representing molecules

Sections 1.7-1.15
An Introduction to Valence Bond Theory
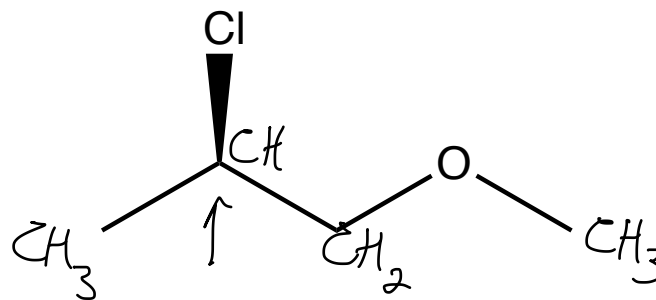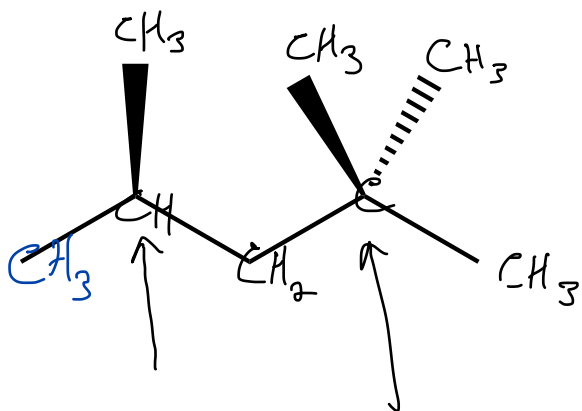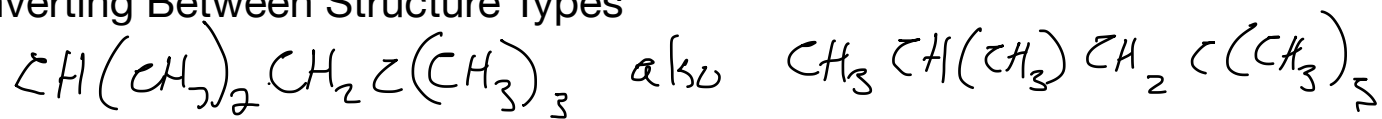
Section 1.6: An Introduction to MO Theory
Sections 1.7-1.15: An Introduction to Valence Bond Theory

$$CH(CH_2)_2 CH_2 C(CH_3)_3 \quad also \quad CH_3 CH(CH_3) CH_2 C(CH_3)_3$$

CH_3 CH_3 CH_3

CH CH_3 CH_2 C CH_3

Cl

CH

CH_3 CH_2 O CH_3

a bond
that zomes
toward the viewer

'''| recedes from

viewer

find the longest chain
and make a zig-zag

1   2   3   4   5   6
$CH_3CH(OH)CH_2CH(CH_3)CH_2CH_3$
        OH

OH

O-H
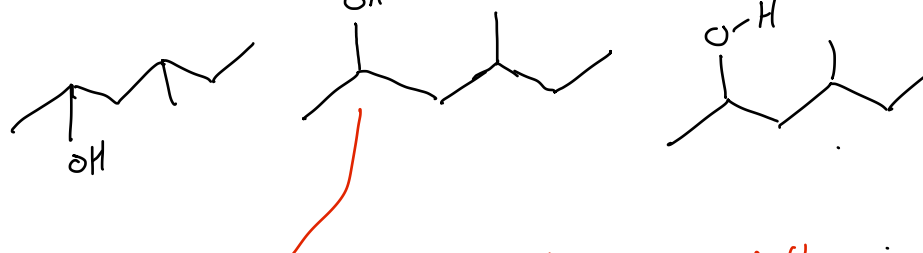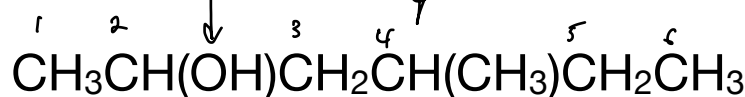
I'm being super lazy.... I don't
care about representing the 3D
structure

N

N

sit in plane
of paper

H
|
C
H   H
H
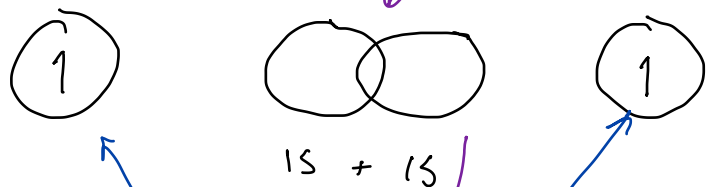
representations of e⁻ density

H   H   H–H
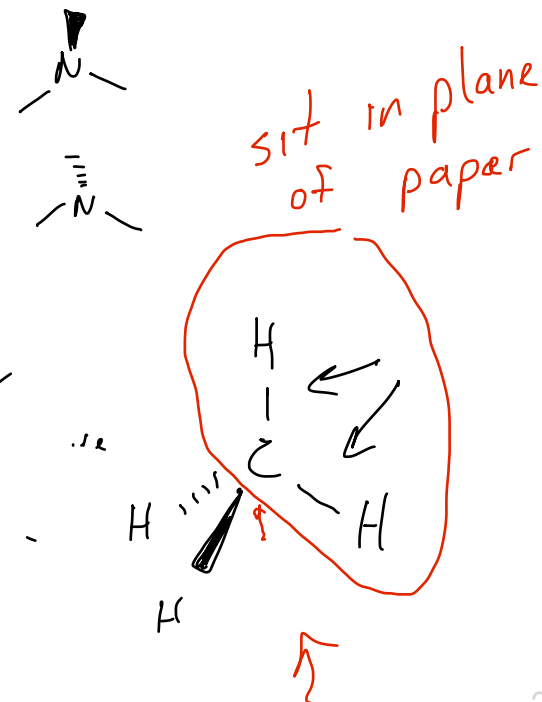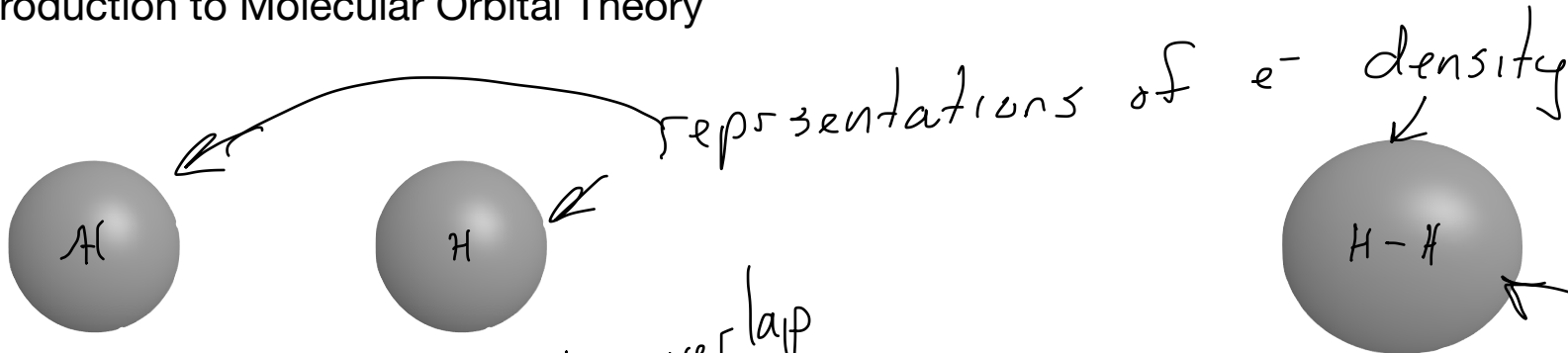
Where the orbitals overlap they cancel out

these molecular orbitals are used to calculate things like e⁻ density clouds
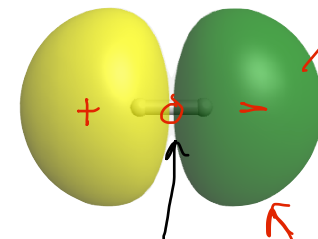
When the atoms come together the atomic orbitals overlap

these lobes's have opposite phase
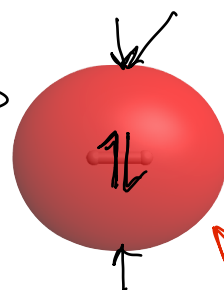
subtract atomic orbitals

+ — —

add atomic orbitals

1   1

1S   1S + 1S   1S
1S

These are 1S orbitals

1 1S an e⁻

these AO's are add to an subtracted from each other to make MO's

these are molecular orbitals

Interpret Molecular Orbitals