Class Announcements

Exam 1 Stats

# Papers	145
Average	74.9
High Score	100 (There were 2 😊)

>90:	32
>80:	41
>70:	27
>60:	16
>50:	12
<50:	17

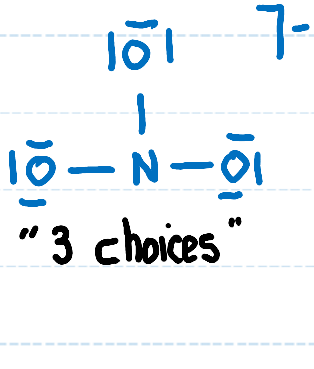
3.9 What is Resonance?

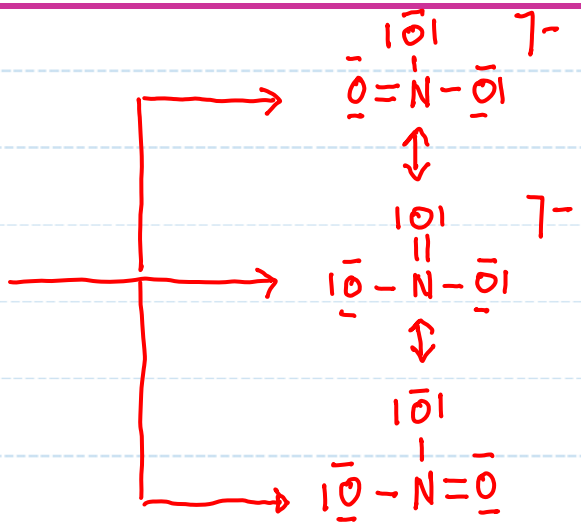
Drawing Lewis Structures of Covalent Compounds

Group IV: Choices When Forming Multiple Bonds … Resonance

NO_3^-

N:	5
O:	3(6)
~ :	1
	24
3xBP	-6
	18
9xLP	-18
	0

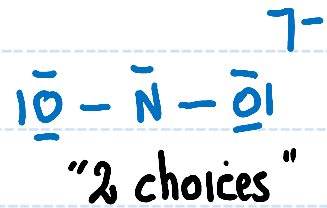


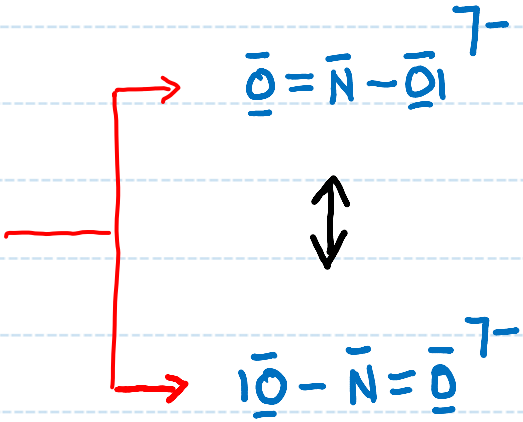


↔ denotes that the structures are Resonance ones.

NO_2^-

N:	5
O:	2(6)
~ :	1
	18
2xBP	-4
	14
6x LP	-12
	2
1 x LP	-2
	0





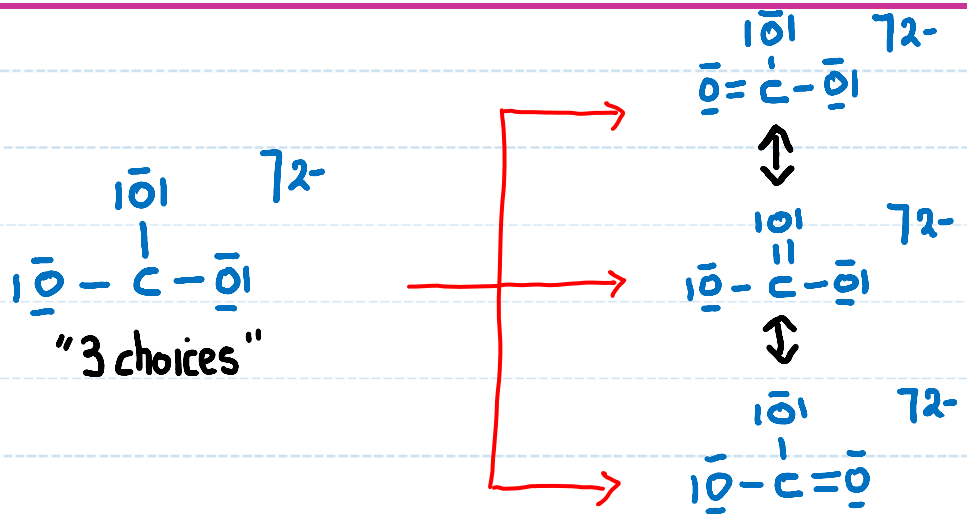
3.9 What is Resonance?

Drawing Lewis Structures of Covalent Compounds

Group IV: Choices When Forming Multiple Bonds … Resonance

CO_3^{2-}

C: 4
O: 3(6)
2-: 2
24
3x BP -6
18
9x LP -18
0



Notes

a) ↔ used to denote Lewis Structures that are Resonance Structures.

b) Resonance Structures are **not** "real" structures – they are extremes – the actual structure is the weighted average of all the reasonable Resonance Structures.

3.7 What Is a Covalent Bond and How Does One Form?

C Drawing Lewis Structures of Covalent Compounds

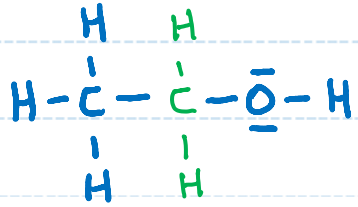
Group V: Organic Molecules

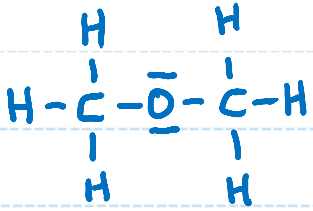
C_2H_6O

C : 2(4)
H : 6(1)
O : 6
20

8 x BP -16
4

2 x LP -4
0





How do I know which one?

Does it matter?

How many C-H bonds are there in C_2H_6O

a) 3 b) 4 c) 5
d) 6 e) Help

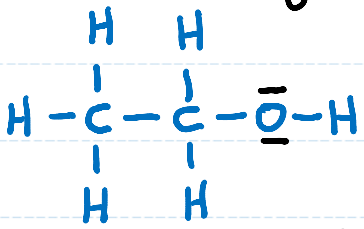
Notes

When dealing with organic molecules we can assume with some degree of certainty that the "Octet Rule" is not violated and thus:

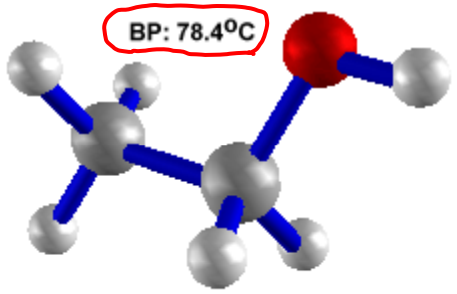
C: 4 bonds, 0 lone pairs
N: 3 bonds, 1 lone pair
O: 2 bonds, 2 lone pairs
Halides: 1 bond, 3 lone pairs

CH_3CH_2OH ... "C_2H_6O"

↳ Alcohol functional group

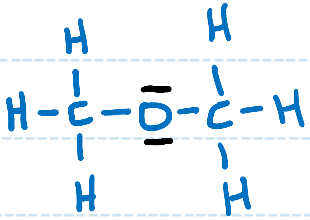


Ethanol.

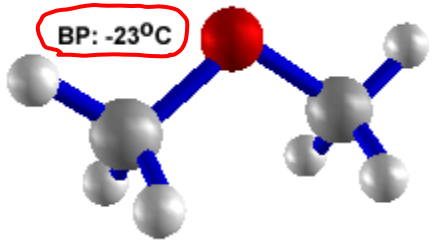


CH_3OCH_3 ... "C_2H_6O"

↳ Ether

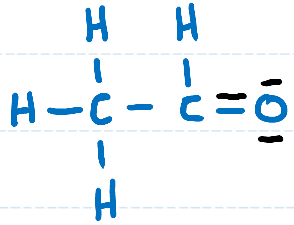


Dimethylether

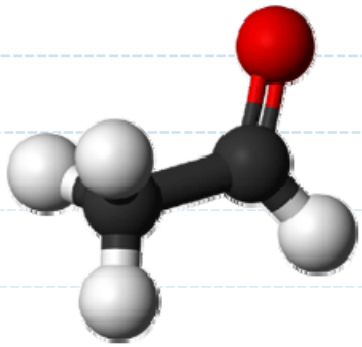


CH_3CHO

↳ aldehyde

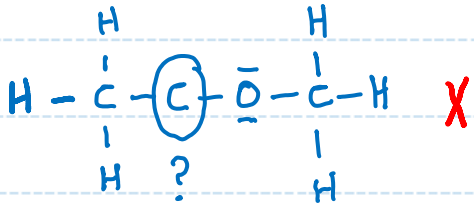


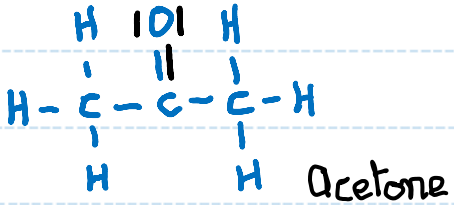
Acetaldehyde



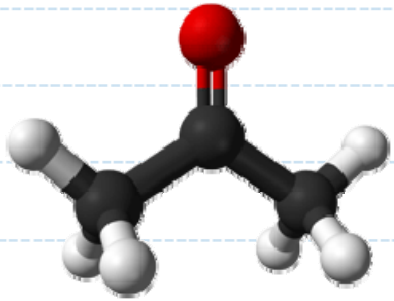
CH_3COCH_3

↳ Ketone



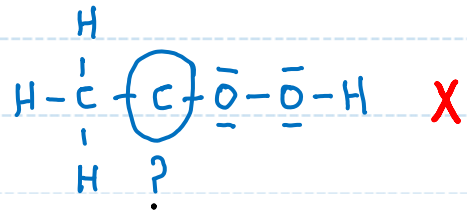


Acetone

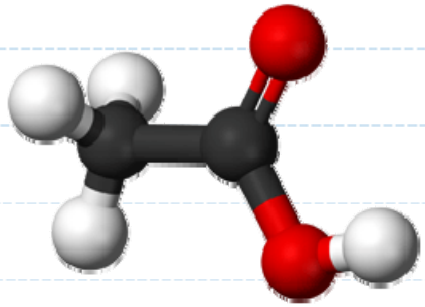


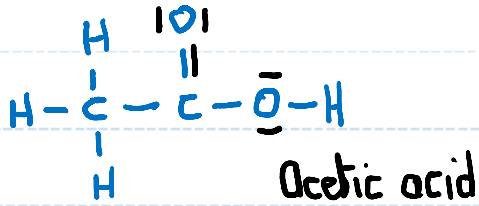
CH_3COOH

Carboxilic acid



X

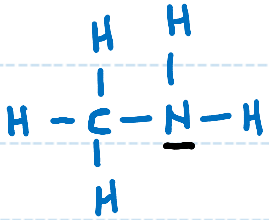
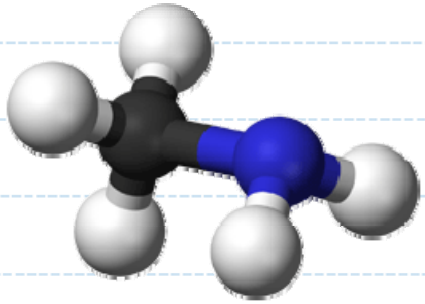




Acetic acid

CH_3NH_2

Amine (base)



Methylamine