

(8) Today

3.1 Lewis Structures

3.1.1 Resonance and 3.1.3 Formal Charge

3.1.2 Expanded Octets

3.1.4 Failure of Lewis Structures to Predict Unusual Cases

Next Class (9)

3.1.4 Failure of Lewis Structures to Predict Unusual Cases

3.2 VSEPR

(10) Second Class from Today

3.2 VSEPR

3.3 Molecular Polarity

Third Class from Today (11)

4.1 Symmetry elements and Operations

4.2 Point Groups

Pat
Lewis Structures

table 1

thiocyanate



$$6 + 4 + 5 + 1 = 16/2$$

8 pairs

Connor
isocyanate

table 2



$$6 + 4 + 5 + 1 = 16/2$$

8 pairs

Emma Fulminate
Section 3.1

table 3

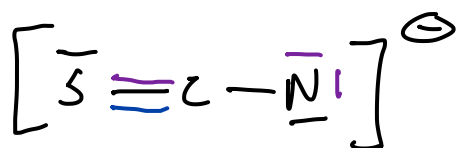
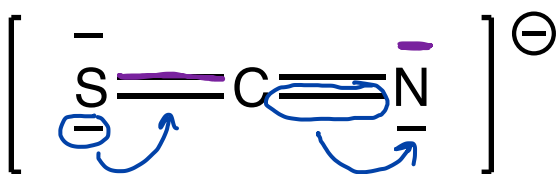
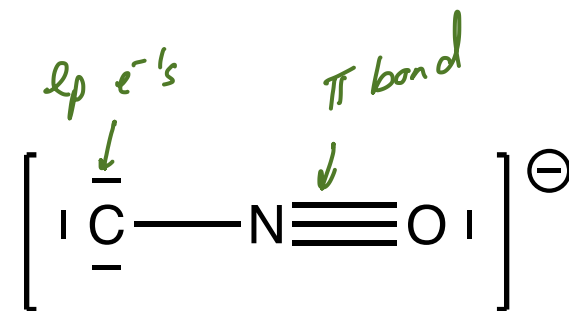
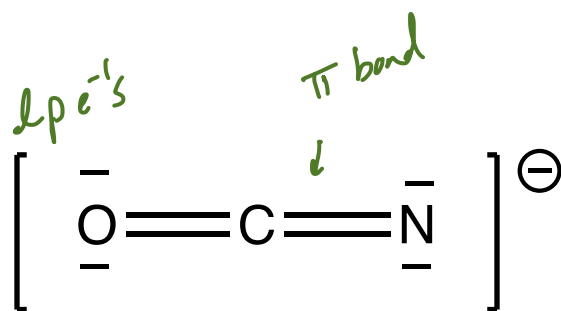
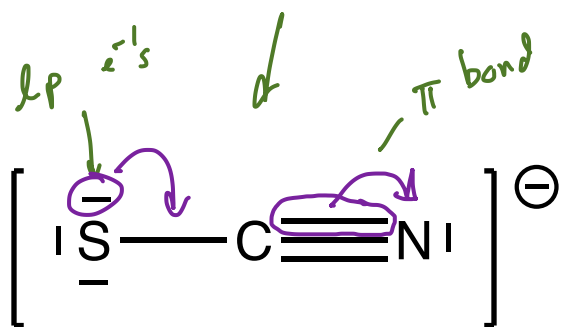


$$4 + 5 + 6 + 1 = 16/2$$

8 pairs

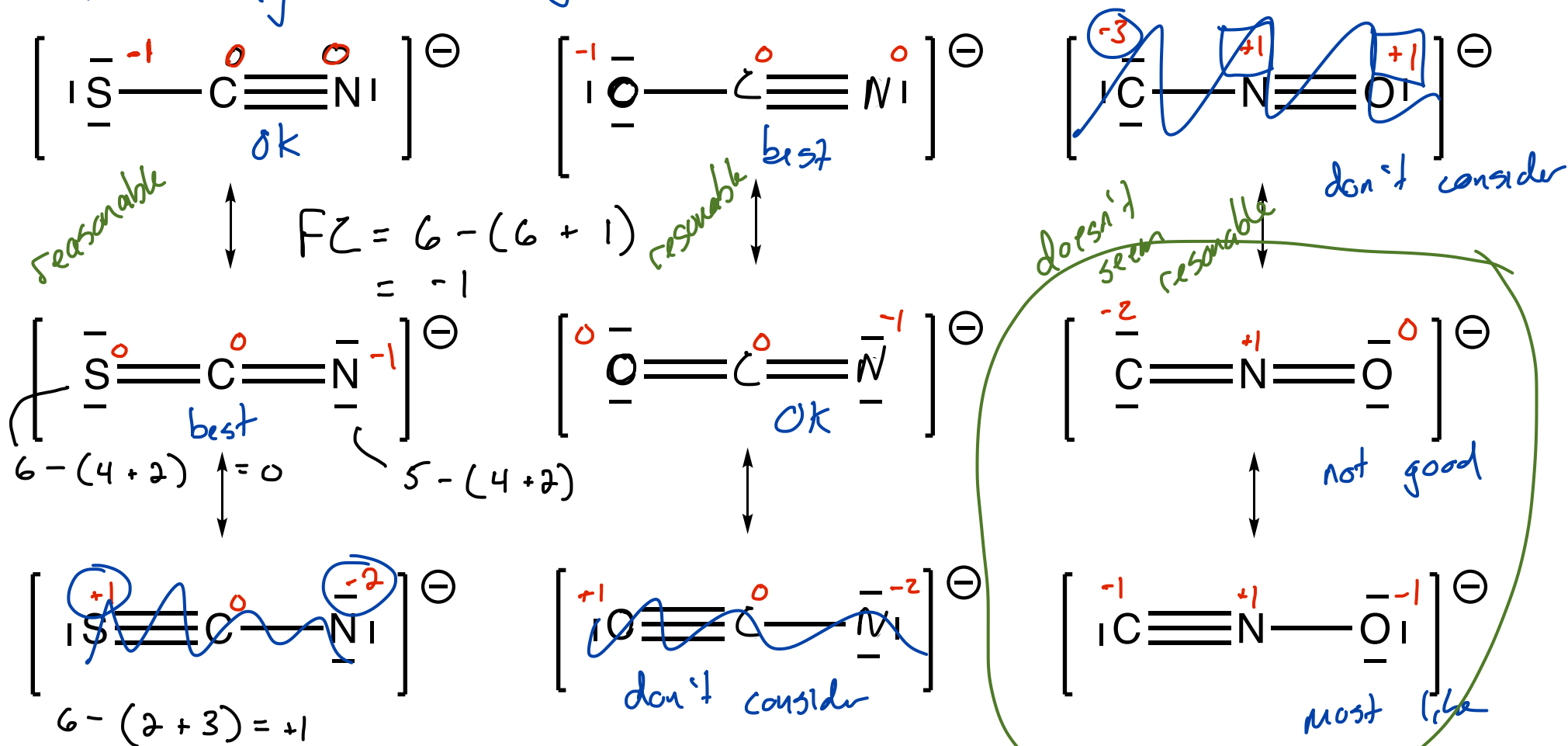
Lewis Structures: Resonance + electron delocalization

Section 3.1.1



isoelectronic same # of atoms
 same # of e^-

Lewis Structures: Formal Charge *each contributor is drawn to contribute to our understanding of the molecule but they don't always contribute equally* Section 3.1.3



Things that increase the energy of the contributor & make it less important

charge separation, incomplete octets, "wrong" or "unexpected" charges

Lewis Structures: "Expanded" Shells

Section 3.1.2

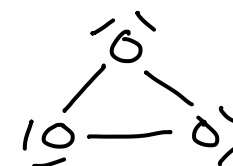
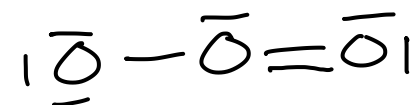
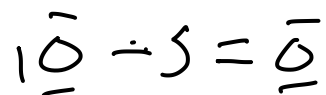
18/2 9 pairs

SO₂

vs

18/2 9 pairs

O₃



bond angle = 60° ... no way