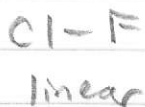
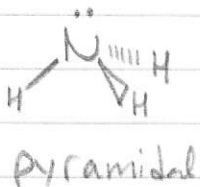
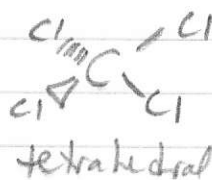
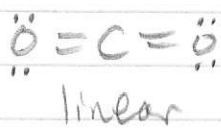
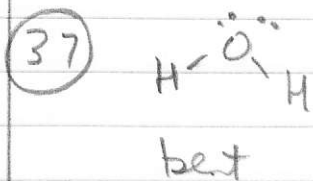


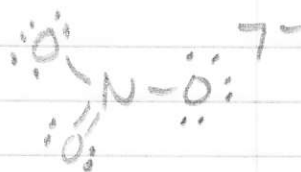
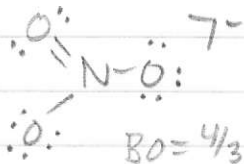
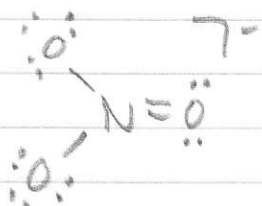
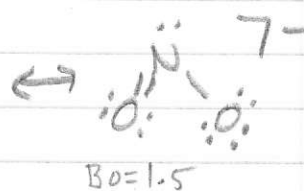
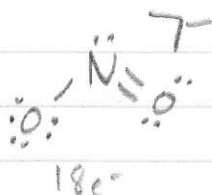
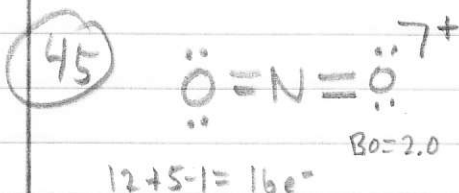
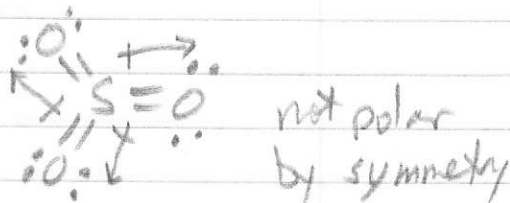
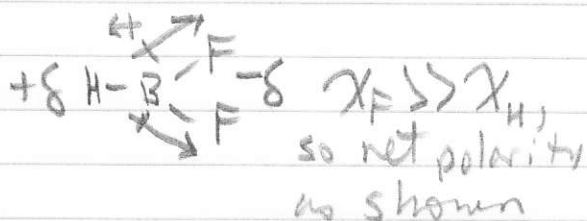
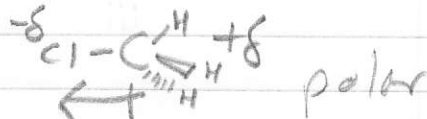
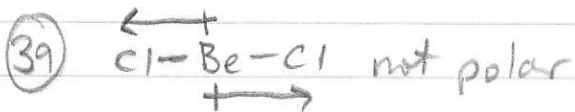
Ch 8



(I) The C-O or C-Cl bonds are most polar bonds.

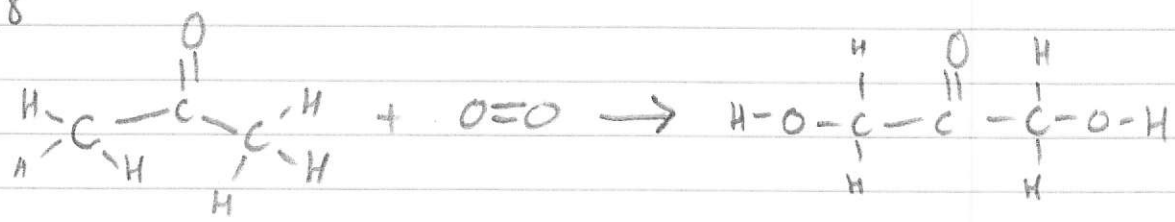
(III) $:\ddot{\text{Cl}}-\ddot{\text{F}}:$ $\chi_{\text{F}} > \chi_{\text{Cl}}$
 so the F has more negative charge than Cl

(II) CO_2 & CCl_4 are not polar molecules, as the dipoles of each bond are negated by opposite dipoles



higher bond order \rightarrow shorter bond
 Bond length: $\text{NO}_2^+ < \text{NO}_2^- < \text{NO}_3^-$

CH₈
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(a) Break: 2 (C-H), 1 O=O make: 2(H-O), 2(O-C)
definitely exothermic, as 2 single bonds are stronger than one double bond.

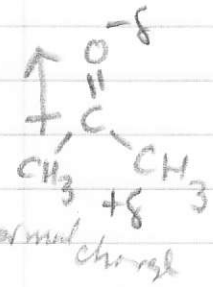
$$\Delta H^\circ \approx -\sum \text{BDE}_{\text{Formed}} + \sum \text{BDE}_{\text{Broken}}$$

$$\approx -926 - 716 + 826 + 498 \text{ kJ/mol}$$

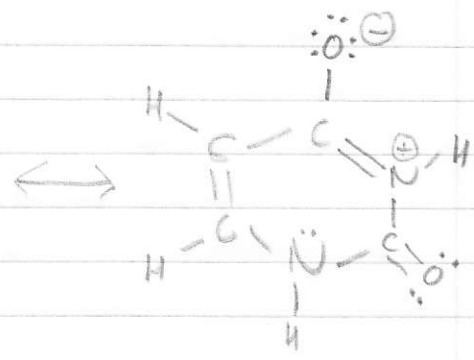
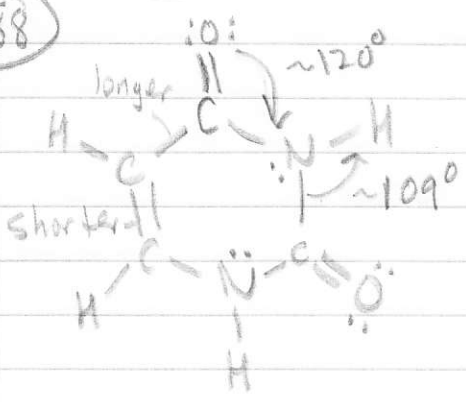
(b) yes. central carbon is trigonal planar
Polar

(c) H⁺ can be removed from the oxygens.

This is because O can tolerate a negative formal charge



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Uracil

less-stable resonance form of uracil (minor contributor) (similar for other -N=C-)

Protons attacks -δ regions of uracil. Either O-atom!