

Ch 8

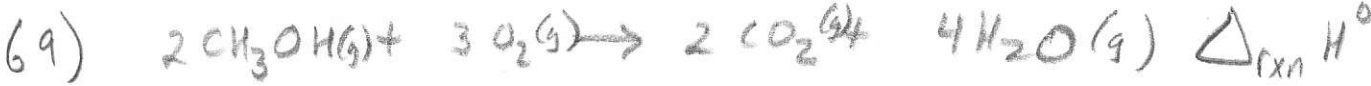
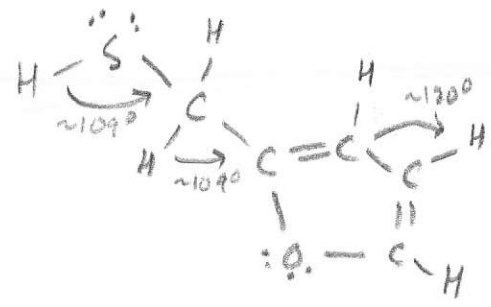
71)



most reasonable, as FC are smallest

But still distributed \rightarrow unstable ion.

78b)



6 C-H (413)	3 O=O (498)	4 C=O (745)	8 H-O (463)
2 C-O (358)			
2 O-H (463)			

Forming bonds releases energy
Breaking Bonds costs energy.

$$\Delta_{\text{rxn}} H^\circ \approx - \sum \text{Bond Energy Formed} + \sum \text{Bond Energy Broken}$$

$$- 6684 \frac{\text{kJ}}{\text{mol}} + 5614 \frac{\text{kJ}}{\text{mol}} = -1070 \frac{\text{kJ}}{\text{mol rxn}}$$

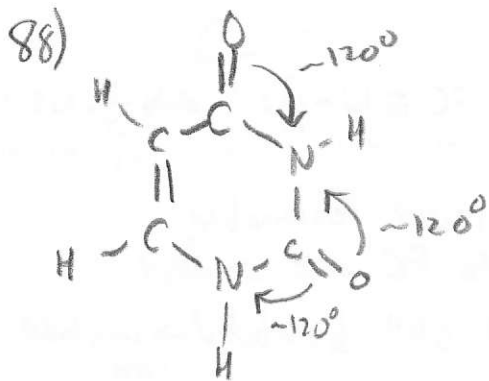
$\hookrightarrow -535 \frac{\text{kJ}}{\text{mol CH}_3\text{OH}}$

$$\Delta_{\text{rxn}} H^\circ = \sum_{\text{prod}} \Delta_f H^\circ - \sum_{\text{reactant}} \Delta_f H^\circ = (2 \times -393.5 + 4 \times -241.8) - (2 \times -201 + 0)$$

$$= -1352 \frac{\text{kJ}}{\text{mol rxn}}$$

$-676 \frac{\text{kJ}}{\text{mol CH}_3\text{OH}}$

Using bond energies is just an approximation...



$C=C$ is shorter than $C-C$

protons attack regions of $-δ$ charge.
Based on bond polarity, these are the two O-atoms.
