Homework #7 Chemistry 1013 (Fong) due Monday 9 Nov 2017 (in class) 24 pts

Your name: Answer

2a) A sweet-tasting white powder contains 20.00 g C, 3.333 g H and 26.665 g O. What is the powder's empiric formula ? (2 pts)

Element	Mass (g)	Atomic mass (g/mol)	mol = n	n / n min
C	20.000	12	1.666	1
H	3.333	1	3.333	2
O	26.665	16	1.666	1

Empiric formula = $C_{\boxed{1}}H_{\boxed{2}}O_{\boxed{1}}$ MW = 30

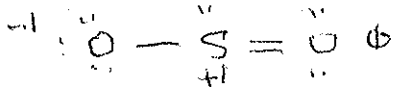
2b. The actual molecular mass of the compound above is 360 g/mol. What is the molecular formula ?

formula = $C_{12}H_{24}O_{12}$ (2 pts) 360/30 = 12

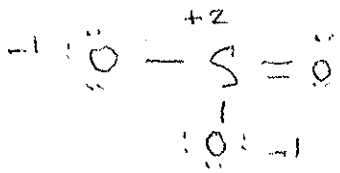
2. Use the Lewis octet rule to draw the best structures for: (2 pts each)
(Make sure all lone pairs are shown !!)

a) CO

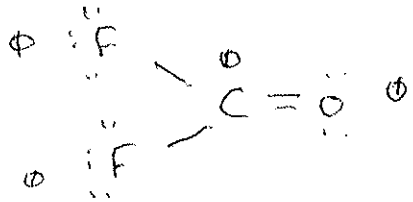
b) SO_2 (S in middle, 2 O connected just to S)



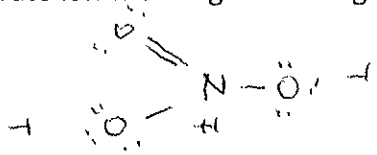
c) SO_3 (S in mikddle, 3 O connected to just S)



d) COF_2 (C in middle; O and 2 F connected just to C)



e) NO_3^- (nitrate ion with negative charge; N connects to each O separately)



3) For your CO, SO_2, SO_3 and NO_3^- structures, indicate the formal charges on each atom in the molecule (2 pts for each molecule)