

Environmental Chemistry

Written Response 1

Due Tuesday, September 15, 2009 (at the start of class)

Provide the following feedback (on this sheet) on Baird and Cann (BC) pp. 27-51 and Spiro, Purvis-Roberts, and Stigliani (SPS) Chapter 4, pp. 1, 4-15

Strengths (what was clear, interesting, and/or intriguing?)

BC "The lack of noticeable reactivity in the atmosphere is deceptive"
-- intriguing and insightful (p.28)

- Figs 1-4 and 1-5 depict the effectiveness of O_3 in filtering out UV-B and UV-C very well
- The section on Biological Consequences is interesting and provides good detail
- The point (on p.40) that photon energy is a necessary, but not sufficient, condition for photolysis is very important.

SPS Overall, I like the more mathematical treatment (but BC typically has longer and more engaging narratives). Good examples of this are the Worked Problems 4.1 and 4.2 (see back)

Weaknesses (what was unclear, boring, or missing?)

BC Very little discussion up front of basic atmospheric facts

- No problems make use of $PV=nRT$ -- a big hole!
- Inconsistent and undefined measurements of absorptivity (see Fig 1-3 and 1-4)
- An imprecise discussion of heat (p.38) - heat is not shared among molecules, but rather the process of E dispersion
- Box 1-2 makes a good, but irrelevant point. $O + O_2$ is slow (because of a rather high E_a) even though the