

24. H_2CO_3 dissociates in aqueous solution to H^+ and HCO_3^- with a K_{a1} value = 4.3×10^{-7} . The second dissociation forms H^+ and CO_3^{2-} with K_{a2} is 4.8×10^{-11} .

This acid

- a. is strong
- b. produces large numbers of protons because of the high K_{a1} .
- c. is weak.
- d. does not produce any buffer into the aqueous solution.

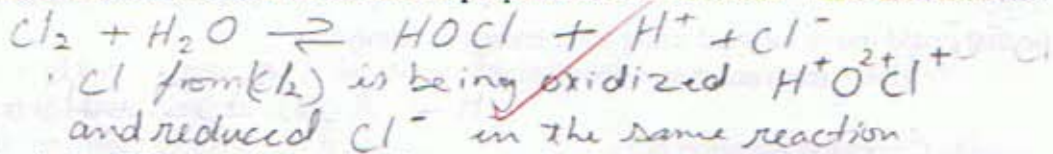
25. What three acids contribute to acid rain?

H_2SO_4 , HNO_3 , H_2CO_3

26. What two acids contributing to acid precipitation are almost entirely from anthropogenic sources?

H_2SO_4 , HNO_3

27. Chlorine gas is often used as a disinfectant in water and wastewater treatment. This hydrolysis reaction is considered to be a disproportionation reaction. Write the reaction:



28. What is the difference in meaning between *adsorbed* and *absorbed* when referring to contaminants involved with particles?

adsorb = attach to the surface

absorb = take in

29. Why is a high level of alkalinity (presence of HCO_3^- and CO_3^{2-}) important in natural waters?

for Buffering, can accept more acid without changing its pH.

30. Why is it important to maintain a high Eh in drinking water?

For the solids to stay in the stability region boundary, solids might dissolve less + that if considering stable pH.

high Eh means mostly in the oxidizing region