

Octet rule the observation that atoms of nonmetals form the most stable molecules when they are surrounded by eight electrons (to fill their valence orbitals)

Orbital a representation of the space occupied by an electron in an atom; the probability distribution for the electron

Organic acid an acid with a carbon – atom backbone and a carboxyl group

Organic chemistry the study of carbon – containing compounds (typically containing chains of carbon atoms) and their properties

Oxidation an increase in oxidation state (a loss of electrons)

Oxidation – reduction (redox) reaction a reaction in which one or more electrons are transferred

Oxidation states a concept that provides a way to keep track of electrons in oxidation – reduction reactions according to certain rules

Oxidizing agent (electron acceptor) a reactant that accepts electrons from another reactant

Oxyacid an acid in which the acidic proton is attached to an oxygen atom

Ozone O_3 , a form of elemental oxygen much less common than O_2 in the atmosphere near the earth