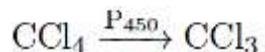
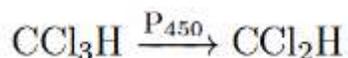


Oxidative Stress Answer Key

Summarize the toxicity mechanism of carbon tetrachloride and identify another chemical that produces radicals after biotransformation



Tetrachloride undergoes bioreductive transformation catalyzed by cytochrome P450 to yield trichloromethyl radical. Trichloromethyl radical is a highly reactive species. It may cause lipid peroxidation or form a peroxy radical to inactivate P450 and/or induce other damages. Chloroform is an example.



Label the reduction potential for all the ROS provided in the top of this page and rationalize the viability between their transformation

Students are encouraged to search in literature and collect reduction potentials for these commonly encountered reactive species. The fundamental rationale is that species with higher reduction potentials can be converted to the species with lower reduction potentials through electron transfer processes. The numerical values for the reduction potentials are not important