



Electrochemical and Mechanistic Study of the Reactivity of Superoxide Toward Nutrition, Natural Products, Biomaterials, and Drugs

Guest Editor:

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Message from the Guest Editor

Oxygen-centered radicals, known as reactive oxygen species, are of research interest owing to their involvement in many in vivo reactions. Several reaction mechanisms are known, including superoxide-facilitated oxidation (SFO), single-electron transfer (SET), hydrogen-atom transfer (HAT) involving proton-coupled electron transfer (PCET), and sequential proton-loss electron transfer (SPLET). Conversely, mechanistic study of the reactivity of $O_2^{\bullet-}$ toward biomaterials and drugs has been less frequently reported as regards proton and electron transfer. In addition to in vivo study, mechanistic study of the electron transfer between $O_2^{\bullet-}$ and the substrates will provide deeper insight into its metabolism and degradation of substrates in the biochemical/biophysical reaction, as well as potential scientific findings for the development of drugs and functional foods. The present Special Issue is devoted to gathering these efforts of the research community worldwide and presenting the most relevant technologies that allow this paradigmatic conversion.

