



Oxidative Stress and Antioxidants in Computational Chemistry

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Message from the Guest Editor

Oxidative stress (OS) has long been recognized as a risk to human health. It is associated with the onset and development of numerous diseases. Antioxidants, on the other hand, contribute to ameliorate the deleterious effects of OS, and have been proven to be beneficial in the treatment of many OS-related diseases. They are both of a multifaceted nature, and can be mediated by enzymatic and chemical processes. Their complexity arises from different factors. Some of them are as follows: (i) the wide variety of chemical species that may be involved in competing, simultaneous or consecutive reactions; (ii) the presence of other species in the environment, such as redox metals, that influence oxidant and antioxidant actions; (iii) the dual behavior of some chemicals that can act as antioxidants as well as pro-oxidants; (iv) the myriad of reaction mechanisms and sites that might be involved in such processes. Thus, investigating oxidative stress and antioxidant activity is a challenging task, regardless of whether it is faced experimentally or theoretically.





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Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of "oxidative stress" a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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