

Environmental and Technological Aspects of Redox Processes, IGI Global, 2023

Chapter 12. **Technological and Environmental Factors Impact on the Antioxidation Mechanism of Oil Lipids**

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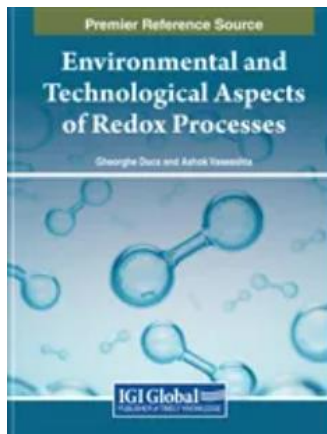
Abstract

This chapter is related to the general characteristics of vegetable oils; the oxidative stability and the mechanism of lipid oxidation; the factors affecting the mechanism of lipid oxidation; the impact of lipid oxidation on the sensory properties of complex food products; and characteristics of the antioxidant complex from local horticultural products. Oil oxidation also destroys essential fatty acids and produces toxic compounds and oxidized polymers. It also affects the taste, nutritional quality, and toxicity of edible oils. Different chemical mechanisms, autoxidation, and photooxidation, are responsible for the oxidation of edible oils during processing and storage, depending on oxygen types. Two oxygen types can react with edible oils: atmospheric triplet oxygen, 3O_2 , and singlet oxygen, 1O_2 .

Keywords: vegetable oils, oxidative stability, lipid oxidation, horticultural products, oxygen

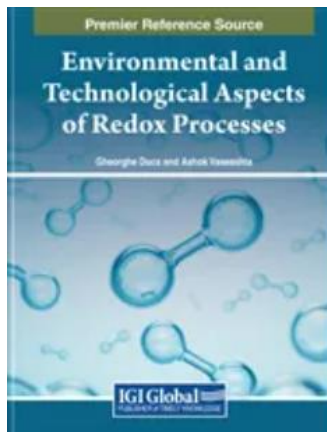
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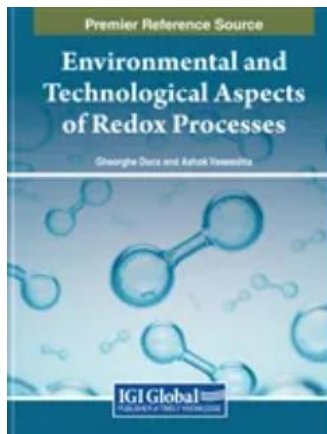
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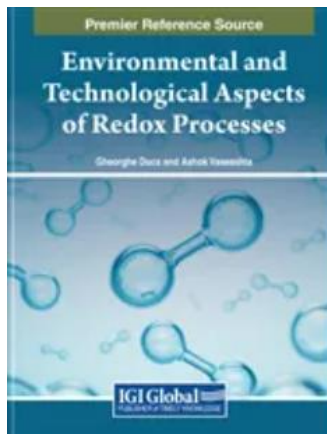
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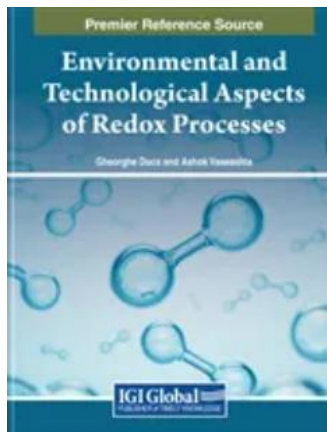
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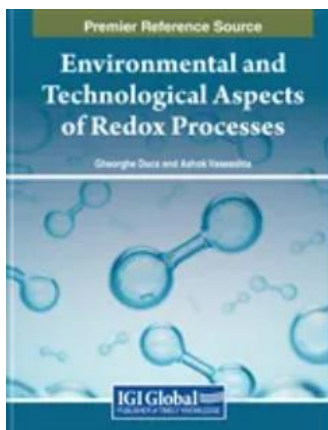
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