

Our Radical Approach to Biomimetic Chemistry

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Free radical production in biological systems is the subject of a very lively scientific debate, focusing on type and extent of damages, as well as on the efficiency of protective and repair systems. Molecular mechanisms and targets of reactive radical species can be studied using biomimetic models, which allow the experiments to be performed in a simplified environment, but suitably designed to be in strict relationship with cellular conditions. By this approach, free radical processes such as lipid isomerization in cell membranes, cyclopurines formation in DNA, and protein desulfurization have been studied in our laboratory, finalizing this research toward biomarker discovery. Ongoing projects will be described with some examples.