Evgeny Pliss et al., Med Chem (Los Angeles) 2017, 7:8(Suppl)
DOI: 10.4172/2161-0444-C1-034

Oxidative stress simulation by radical-chain oxidation of vinyl compounds

Evgeny Pliss, Mikhail Soloviev, Aleksey Grobov, Roman Pliss and **Andrey Sirik**
P G Demidov Yaroslavl State University, Russia

A combination of microvolumetry, the rotating sector method, ESR, 1H-NMR, and IR allowed to establish a detailed mechanism of liquid-phase oxidation of vinyl compounds. A distinctive feature of the mechanism is the fact that the oxidation chain is carried out by a low-molecular hydroperoxide radical. Kinetic, correlation, and quantum-chemical analysis of these processes allows modeling the processes leading to oxidative stress in living organisms. The report analyses the routes of various chemical reactions that reduce the negative impact of oxidative stress. The study proposes the use of a stable nitroxyl radicals of piperidine, pyrroline and imidazoline series as one of the effective components, leading to a positive effect.

Biography

Evgeny Pliss has completed his Candidate of Science degree in 1978 and Doctor of Science in 1990. He has published more than 90 papers in reputed journals and is an author of several monographs. He is the Chair of General and Physical Chemistry at P G Demidov Yaroslavl State University.

pliss@uniyar.ac.ru

Notes: