

Molecular chemiluminescence of lipids

© Rostislav F. Vasiliev, Timur L. Veprintsev, Vladimir V. Naumov, and Aleksey V. Trofimov*

Emanuel Institute of Biochemical Physics, Russian Academy of Sciences. Kosygina St., 4. Moscow, 119334.

Russia. Phone: +7 (8495) 939-73-58. E-mail: avt_2003@mail.ru

*Supervising author; +Corresponding author

Keywords: *antioxidants, chemiluminescence, oxidation, kinetics, lipids.*

Abstract

We studied the influence of lipid extracts from sea-fish tissues on the chemiluminescence kinetics in model system of the initiated free-radical oxidation of ethylbenzene. The character of the concentration dependences of chemiluminescence emission upon introduction of lipid portions substantially differs from that in the presence of individual antioxidants. To rationalize the experimental results, a kinetic scheme has been proposed, which involves the stage of non-radical (molecular) chemiluminescence derived from thermal decomposition of oxidation products contained in lipids.