

Formation and the role of long-lived in liquid perfluorocarbons radicals in chemistry of fluoroorganic compounds and fluoropolymers

Sadulla Allayarov¹

¹Institute of Problems of Chemical Physics, Russian Academy of Sciences, 142432 Chernogolovka, Moscow Region, Russian Federation

The novel type of radicals (LR) in liquid were found first by my radiolysis perfluoroorganic compounds. They can be distilled, dissolved in organic compounds, and they are water protected.

The aims of this report are: to tell about our results of (i) the search for fluoroorganic compounds were able to form LR; (ii) the LR ESR, NMR, and optical absorption spectra collection and their theoretical examination for revealing of LR stability origin; (iii) study of LR stability, reactivity and photosensitivity as function of aggregation; (iv) the search for LR “reviving” ways when acted upon by light, heat and chemical reagents; (v) revealing of LR role in the radiolysis, halogenation and polymerization of fluoroorganic compounds.

These investigations cleared the origin of LR formation and stability, as well to create new model of fluoroolefins polymerization and fluoroorganic compounds halogenation