

The article is published on the materials of speech at the XX All-Russian Conference

"The structure and dynamics of molecular systems." Yalchik 2013.

Publication is available for discussion in the framework of the on-line Internet conference "Butlerov readings".

<http://butlerov.com/readings/>

Contributed: April 27, 2013.

The material based on carbon nanotubes and polyaniline for potentiometric determination of ascorbic acid in solution

© Constantine A. Milakin,^{*†} Igor S. Yaremenko, Alexey V. Kubarkov,
Olga A. Pyshkina,^{*} and Vladimir G. Sergeev

Department of Macromolecular Compounds. Faculty of Chemistry. Moscow State University named after
M.V. Lomonosov. Leninskie Gory St., 1, build. 40. Moscow, 119992. Russia.

Phone: +7 (495) 939-38-77. E-mail: milakin777@yandex.ru

^{*}Supervising author; [†]Corresponding author

Keywords: polyaniline, multiwall carbon nanotube, composite material, reactivity, ascorbic acid.

Abstract

Composite material based on polyaniline (PANI) and multiwalled carbon nanotubes (MWNT) has been synthesized. It has been shown that introduction of MWNT into the composite allows to increase its reactivity in redox reaction with ascorbic acid as compared to the initial PANI. It has been found that the use of PANI-MWNT material allows to increase by an order the sensitivity of the potentiometric determination of ascorbic acid (up to $1 \cdot 10^{-7}$ mol/l).