Journal of Chemistry 2013

Synthesis and antimicrobial activity of carboxylate phosphabetaines derivatives with alkyl chains of various lengths

Galkina I., Bakhtiyarova Y., Shulaeva M., Pozdeev O., Egorova S., Cherkasov R., Galkin V.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The purpose of the present study was to investigate the antibacterial activity of fifteen novel nanosized alkyl esters of carboxylate phosphabetaine: β-(carboxyalkyl)ethyltriphenylphosphonium bromides 4-8, β-(carboxyalkyl)-β-methylethyltriphenylphosphonium bromides 9-13, and β-(carboxyalkyl)-α-methylethyltriphenylphosphonium bromides 14-18. The in vitro microbiological activity of the synthesized phosphonium bromides against gram-positive and gram-negative bacteria and the yeast Candida albicans was determined in comparison to standard agents. Microbiological results indicate that the synthesized phosphonium salts 4-18 possess a broad spectrum of activity against the tested microorganisms. Every newly synthesized compound was characterized by elemental analyses, IR, 1H NMR, and 31P NMR spectral studies. © 2013 Irina V. Galkina et al.

http://dx.doi.org/10.1155/2013/302937