Antimicrobial Activity of *N*-Alkoxycarbonylmethyl-*N*-alkyl-piperidinium Chlorides

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Z. Naturforsch. **59 c**, 782–786 (2004); received June 9/July 23, 2004

The aim of the study was to assay antibacterial and antifungal activity of newly synthesised *N*-alkoxycarbonylmethyl-*N*-alkyl-piperidinium chlorides. The compounds tested were found to inhibit the growth of some Gram-negative bacteria, Gram-positive strains and some representatives of yeast-type *Candida.* From microbiological experiments two of the compounds tested, *N*-dodecyloxycarbonylmethyl-*N*-methyl-piperidinium chloride (**3**) and *N*-dodecyl-*N*-ethoxycarbonylmethyl-piperidinium chloride (**6**), emerged as more active than the other compounds. Since the resistance of biofilms to biocides should be noted during the design and testing of new antimicrobial agents therefore, we have analysed antibacterial properties of the most active compounds towards biofilms. Our study focused on strains of *Pseudomonas aeruginosa* and *Staphylococcus aureus* that served as main model organisms for the biofilm studies.

Key words: Piperidinium Chlorides, Antimicrobial Activity, Molar Volume