

**Hexylaminium bromides derivatives of D-glucopyranose**

Karol Sikora<sup>1</sup>, Barbara Dmochowska<sup>1</sup>, Anna Woziwodzka<sup>2</sup>, Jacek Piosik<sup>2</sup>, Andrzej Wiśniewski<sup>1</sup>

<sup>1</sup>*University of Gdańsk, Faculty of Chemistry Gdańsk, Poland*

<sup>2</sup>*Intercollegiate Faculty of Biotechnology, University of Gdańsk and Medical University of Gdańsk, Poland*

Quaternary ammonium salts (QAS), a group of cationic surfactants which are used in many fields of everyday life such as: pharmaceuticals, disinfectants, corrosion inhibitors, fungicides or pesticides. They exhibit antibacterial and antifungal activity, employed in many antimicrobial drugs. Amphiphilic character allows these compounds to bind to the cell membranes. Numerous QASs exhibit also surface activity, good detergency and low toxicity [1, 2].

A new series of quaternary ammonium bromides have been synthesized:

*N*-[6-(D-glucopyranosyloxy)hexyl]-*N,N,N*-trimethylammonium bromides and *N*-[6-(D-glucopyranosyloxy)hexyl]pyridinium bromides.

The structures of isolates were determined by spectral analysis including <sup>1</sup>H, <sup>13</sup>C, COSY and HSQC NMR analyses.

All synthesized quaternary ammonium bromides were tested for mutagenic activity using Ames test on *Salmonella typhimurium* TA98 strain. Compounds were tested in concentrations ranging from 4 µg/plate to 2 mg/plate, results were compared to negative and positive control.

**References:**

- 1 E. Obłąk, A. Gamian, *Postępy Hig. Med. Dosw.*, **2010**, 64, 201-211.
- 2 J. Pernak, J. Kalewska, H. Ksycińska, J. Cybulski, *Eur. J. Med. Chem.*, **2000**, 36, 899-907.

**Acknowledgements:**

This work was partially financed by grant BMN 538-8451-B006-13 and DS/530-8451-D193-12

**Autor:** ksikora@chem.univ.gda.pl