

V International Conference
CHEMISTRY OF NITROGEN CONTAINING
HETEROCYCLES



CNCH-2009

5th to 9th October, 2009
Kharkov, Ukraine

Book of Abstracts

Volume 2

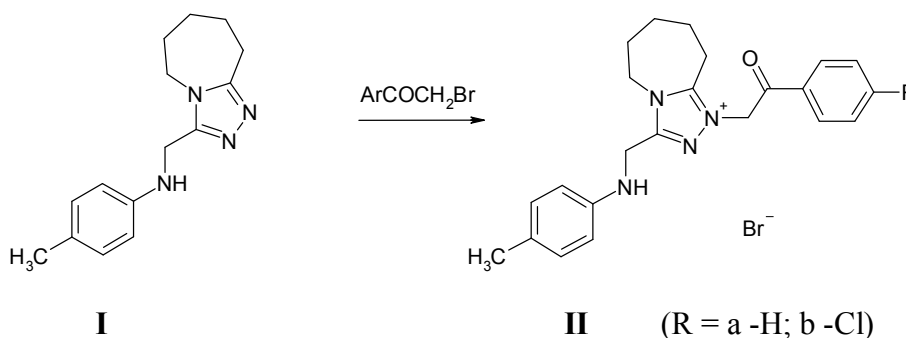
P-192

**BIOCIDING AND ANTICORROSION PROPERTIES OF
SECOND AMINES WITH TRIAZOLAZEPINE CYCLE**

Irina Kurmakova, Natalya Demchenko, Svetlana Prihodko, Anatoliy Demchenko

*Chernigiv State Pedagogical University of T.G. Shevchenko,
Getman Polubotok Street, 53, Chernigiv, 14013 Ukraine ; E-mail: kurmakova@mail.ru*

The second amines **II** is got alkylation of matter **I** on the atom of nitrogen in the first position of the heterocyclic system. Their structure is proved on the basis of information of PMR spectroscopy.



The compound of **I-II** are show high biociding action of noncompetitive type to of sulphate – reducing bacteria, acting dominant part in the processes of microbial corrosion became. It is set that during concentration of substances **I** and **II** to a 2,0% growth of bacteria is fully oppressed. Introduction to the molecule of the **I** *p*-chlorophenacyl fragment results in some decline of biociding action (during concentration a 2,0% diameter of area of oppressing of growth of bacteria makes 52,5 mm). That by explanation spatial configuration and quantum-mechanical indexes of molecules (method of MNDO-PM3, CS Chem 3D Pro. Cambridge Soft). Thus for *p*-toluidine and methyltriazolazepin biociding action not is set.

The iron-reducing, denitrifying bacteria and ammonifying bacteria are permanent companions of sulphate-reducing bacteria, is also sensible to substances **I – II**.

A protective effect under the conditions of microbial corrosion of the low-carbon steel for substances **I – II** (1-2 g/l) is 87% - 98% (display was 6 months). Thus maximum inhibiting action is set for the bromides of quarter (quaternary) ammonium salts. It can be the explanation effect of synergism with participation biogenic hydrogen sulphide - basic metabolite of sulphate – reducing bacteria.

Thus second amines with triazolazepine cycle are perspective for practice of anticorrosive protection.