Full Paper _____ *Thematic Section:* Physico-Chemical Research.
Registration Code of Publication: 13-35-8-138 *Subsection:* Colloidal Chemistry.
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: May 31, 2013.

Micelle formation in aqueous solutions of cationic surfactants with bicyclic head group. Data of IGMP-NMR.

© **Nail K. Gaisin**,[1+] **Oleg I. Gnezdilov**,[2] **Ferid I. Bashirov**,[1] **Elena P. Zhiltsova**,[3] **Lucia Ya. Zakharova**,[3]* **Tatiana N. Pashirova**,[3] and **Svetlana S. Lukashenko**[3]
[1] *Department of Physics. Kazan National Research Technological University. K.Marx St., 68. Kazan, 420015. Tatarstan Republic. Russia. E-mail: NailGaisin@yandex.ru*
[2] *E.K. Zavoiskiy Kazan Physico-technical Institute. Sibirskiy Tract, 10/7. Kazan, 420029. Russia.*
[3] *A.E. Arbuzov Institute of Organic and Physical Chemistry. Arbuzov St., Kazan, 420088. Russia. E-mail: lucia@iopc.ru*

*Supervising author; [+]Corresponding author

Keywords: *dicationic surface-active substance, micelle formation, micelle radius, aggregation number, NMR-spectroscopy.*

Abstract

With NMR-IGMP method we studied micelle formation process in dicationic surfactant with the head group of bicyclic structure of 4-ethyl-1-tetradecyl-1,4-diazo-niabicyclo [2.2.2] octane dibromide in heavy water. The critical micelle concentration was defined, the radii of the micelles were established as well as their aggregation numbers. A comparison of the data with the characteristics of micelle mono-cation 4-aza-1-tetradecyl-1-azoniabicyclo [2.2.2] bromide octane was carried out.