

Particular qualities of distribution of hydrocarbons of the adamantane series in the oils of Kalmykia

© Chingiz M. Badmayev, Tegryash V. Okunova, Maxim V. Giruts, Olga G. Erdnieva,¹
Vladimir N. Koshelev^{2*}, and Guram N. Gordadze¹

¹ *Department of Organic Chemistry and Petroleum Chemisorption. I.M. Gubkin RSU of Oil and Gas.
Lenin Ave, 65. GSP-1, Moscow, 119991. Russia.*

² *Department of Chemistry. Kalmyk State University. Pushkin St., 11. Elista, 358000. Russia.
Phone: +7 (499) 233-90-63. E-mail: gordadze@rambler.ru*

Keywords: adamantane hydrocarbons, 1-methyladamantane, 1,3-dimethyladamantane, 1,3,5-trimethyladamantane, polycyclic hydrocarbons-biomarkers, distribution.

Abstract

Distribution of adamantane hydrocarbons of the content C₁₀-C₁₃ in oils of Kalmykia lying in Jurassic and chalk deposits has been investigated using the method of chromatomass-spectrometry. It has been shown that adamantanes are present in all studied oils. Relative concentrations of thermodynamically most resistant isomers – 1-methyladamantane, 1,3-dimethyladamantane and 1,3,5-trimethyladamantane are far from equilibrium and their content is reduced with the increase of molecular weight. Comparative analysis of distribution of adamantanes and high-molecular polycyclic hydrocarbons-biomarkers has been carried out.