

Study of adsorption – desorption of ibuprofen on Perrenjas clay before and after its treatment with sulfuric acid

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Abstract

Natural clays with a high smectite content are used widely in pharmaceutical industry as adsorbent, antidiuretic and drug carrier because of their physical – chemical properties. Clay may interact with drugs by reducing their absorption and slowing the release of drug towards the target organ. In this paper is studied the suitability of Perrenjas clay, from Albania, in its natural state and after its treatment with sulfuric acid, to adsorb-desorb ibuprofen out of its water and hexane solutions. Clays cation exchange capacity is measured before and after the treatment with 11.142 M sulfuric acid aqueous solution. Concentration of ibuprofen in its aqueous and hexane solutions, after reaching the adsorption – desorption equilibria, were determined by means of UV spectrophotometry. The respective adsorption – desorption isotherms were drawn based on those measurements.

Biography

Jona Keri has finished her MSc studies in Chemistry Department, Faculty of Natural Sciences at University of Tirana and is now working as a Doctoral student since two years in the field of adsorption/desorption equilibrium study of different active compounds as diclofenac, mefenamic acid, meclofenamic acid etc. on the montmorillonite clays. She has published 1 work as a Co-author on “Compounding of polystyrene and silylated cellulose with organically modified clay”, and working on 2 new articles, 1 work as a author for the 6th International Conference of Ecosystems (ICE2016), Book of Proceedings, pp 86-87.

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