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Nonyl-and Dodecylamines Intercalated Bentonite and Illite From Turkey

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Abstract: Bentonite and illite were interacted with nonyl- and dodecylammonium salt solutions to see how the alkylammonium ions became attached and oriented within the interlamellar space of the clays. X-ray diffraction analyses were carried out to obtain information on the interlamellar organization and orientation of the adsorbed alkylammonium compounds. Thermogravimetric analysis (TG, DTG) and Fourier Transform Infrared Analyses (FTIR) were performed to characterize the samples and to determine the amounts adsorbed by the clay samples. The modification process was effective in nonyl- and dodecylammonium bentonites. Alkylammonium ions were adsorbed in the interlamellar space of the clays. Regarding the orientation of the alkylammonium ions between the silicate sheets, it was found that the organic cation alkylchains were parallel to the silicate layer. Intercalation was generally greater with DA ions.

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