The I.R. Spectra of Lysine Adsorbed on Several Cation-Substituted Montmorillonites*

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* Presented in part at the 161st National Meeting of the American Chemical Society, Los Angeles, California, March 1971. Submitted by Sung Do Jang to the Faculty of the College of Ceramics at Alfred University, in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Ceramics.

Abstract: The i.r. spectra ($4000 - 1200\ cm^{-1}$) are obtained for several cation-substituted-montmorillonite-lysine complexes that were prepared at their natural pH's. Analyses of the spectra of copper-, cobalt-, nickel- and zinc-montmorillonite films indicate that bidentate chelate complexes which contain protonated ϵ-amino-groups are present in the interlamellar spaces. Investigation of the spectra of the hydrogen-, calcium- and natural-montmorillonite films indicates that the dominant adsorbed species for these complexes is a lysine cation in which both the α- and the ϵ-amino-groups are protonated while the carboxyl group is ionized.

Clays and Clay Minerals; April 1972 v. 20; no. 2; p. 79-82; DOI: 10.1346/CCMN.1972.0200205

Clay Minerals Society (www.clays.org)