
Adsorption of Xylene by Organoclays

W. H. Slabaugh and R. W. Vasofsky*

Oregon State University, Corvallis, Oregon 97331, U.S.A.

* Present address: Department of Physics, Clarkson of Technology, Potsdam, New York 13676, U.S.A.

Abstract: Based on X-ray powder diffraction measurements of swelling, thermodynamic analysis of adsorption and kinetics, a mechanism of interaction between xylene isomers and two organoclay complexes was derived. The work is intended to resolve the factors which make possible the chromatographic separation of the xylene isomers with organoclays. Significant differences between the behavior of fresh organoclays and xylene vapor-conditioned organoclays were noted. Only small differences were apparent between the montmorillonite and the hectorite organoclays. Force constants, enthalpy changes, entropy changes, free energy changes and two specific rate constants were derived from the information obtained from this study.

Clays and Clay Minerals; December 1975 v. 23; no. 6; p. 458-461; DOI: [10.1346/CCMN.1975.0230608](https://doi.org/10.1346/CCMN.1975.0230608)

© 1975, The Clay Minerals Society

Clay Minerals Society (www.clays.org)
