
Use of Long-Spacing Alcohols and Alkanes for Calibration of Long Spacings from Layer Silicates, Particularly Clay Minerals

G. W. Brindley and Hsien Ming Wan

Department of Geosciences, and Materials Research Laboratory, The Pennsylvania State University, University Park, Pennsylvania 16802, U.S.A.

Abstract: Lattice spacings of layer silicates, particularly clay minerals, may exceed 20 Å. The errors in measuring lattice spacings increase rapidly for spacings greater than about 10 Å and diffraction angles 2θ less than about 10° . Long-chain organic compounds, such as normal alcohols, C₁₄-C₂₀, and normal alkanes (paraffins), C₂₆-C₃₀, provide useful calibrations for lattice spacings in the range 10–50 Å. The basal spacings of the calibrating substances are determined from their higher order reflections in the angular range where reflections from quartz and silicon are used as standards.

Clays and Clay Minerals; August 1974 v. 22; no. 4; p. 313-317; DOI: [10.1346/CCMN.1974.0220402](https://doi.org/10.1346/CCMN.1974.0220402)

© 1974, The Clay Minerals Society

Clay Minerals Society (www.clays.org)
