

Mechanochemical Reaction Between the Probe and the Matrix: A Possible Source of Errors When IR Spectra of Alkali Acid Bifluorides Are Recorded in Alkali Halide Pressed Disks

**E. Reguera,^{1,*} J. Fernández-Bertrán,² A. Paneque,²
and H. Yee-Madeira^{3,‡}**

¹Institute of Materials and Reagents, University of Havana,
Havana, Cuba

²Center of Pharmaceutical Chemistry, Havana, Cuba

³School of Physics and Mathematics, Instituto Polytechnico Nacional de
México, México City, México

ABSTRACT

The mechano-chemical reactions of alkali acid bifluorides (MHF_2), with alkali halides (MX), were studied by x-ray diffraction (XRD) and IR spectroscopy. The reactions were carried out by milling the solid reagents in equimolar ratio by hand in an agate mortar. LiHF_2 is unstable on milling and decomposes to LiF and HF . Rb , Cs , and NH_4 acid bifluorides react

*Correspondence: E. Reguera, Institute of Materials and Reagents, University of Havana, San Lazaro and L. 10400 Havana, Cuba; E-mail: edilso@ff.oc.uh.cu or ereguera@yahoo.com.

‡COFAA Fellow.